

2-Aug.

61

135

3-4

June-August, 1961
Vol. 35, Nos. 3 & 4

Child Development Abstracts & Bibliography

RECEIVED

AUG 28 1961

MIAMI UNIVERSITY
LIBRARY

ABSTRACTS OF ARTICLES 81

MORPHOLOGY 81

PHYSIOLOGY AND BIOCHEMISTRY 85

CLINICAL MEDICINE AND PATHOLOGY 90

PSYCHOLOGY 97

PSYCHIATRY AND MENTAL HYGIENE 125

PUBLIC HEALTH AND HYGIENE 138

HUMAN BIOLOGY AND DEMOGRAPHY 141

EDUCATION 144

SOCIOLOGY 146

BOOK NOTICES 151

BOOKS RECEIVED 155

AUTHOR INDEX 157

Contents

Published by Child Development Publications of the

SOCIETY FOR RESEARCH IN CHILD DEVELOPMENT, INC.

Editor

WILLIAM E. MARTIN
Purdue University

Editorial Board

DOROTHY H. EICHORN
University of California

FRANK FALKNER
University of Louisville

REUBEN HILL
University of Minnesota

EUGENE E. LEVITT
Indiana University Medical Center

JAMES M. TANNER
University of London

GLENN TERRELL, JR.
University of Colorado

Managing Editor

KATE HOFFMAN

Child Development Abstracts and Bibliography, one of three publications of the Society for Research in Child Development, Inc., is issued three times a year, two numbers in each issue. The subscription price per year is \$6.00 domestic, \$6.50 foreign. Single issues are \$2.50.

Child Development is issued quarterly in March, June, September, and December. The subscription price per year is \$12.00 domestic, \$12.50 foreign. Single issues are \$3.50.

Monographs of the Society for Research in Child Development is issued at irregular intervals during the year. The subscription price per year is \$6.00 domestic, \$6.50 foreign. The price of individual monographs is variable.

The three publications of the Society are available at the special price of \$20.00 per year, domestic; \$21.50 per year, foreign.

A limited number of back issues of all publications is available. A mimeographed list may be had upon request.

Subscriptions, address changes, and business communications should be sent to CHILD DEVELOPMENT PUBLICATIONS, Purdue University, Lafayette, Indiana.

Please give four weeks' notice when changing your address, giving old and new addresses. Undelivered copies resulting from address changes will not be replaced; subscribers should notify the post office that they will guarantee forwarding postage. Other claims for undelivered copies must be made within four months of publication.

lica-
sued
per

and
sign.

ed at
6.00
e.

rice

. A

l be
ity,

old
will
will
ust

26
Or
of
40
M.
Th
lov
len
nam
gre
Kra

26
dés
sim
the
car
qu
wo

26
ne
at
19.
and
con
cla
bir
abi
bre

26
télé
phy
of
bir
heat
obt
det
var
stag
aut
bon
the
enc
chi
sta
sim
wo

Abstracts of Articles

MORPHOLOGY

265. ALTEMUS, L. A. **A comparison of cephalofacial relationships.** Angle Orthodont., 1960, **30**, 223-240. The author presents roentgenographic standards of the growth pattern of head, face, jaws, and teeth of American Negro children, i.e., 40 boys, 40 girls in Dental Stage IV A (permanent teeth all erupted up to and including M2). The standards are compared to those of white children of a similar Dental Stage. The absolute cephalofacial dimensions are greater in Negro children; specifically lower facial height exceeds upper in the Negro and corporal length of mandible exceeds length of anterior cranial base; the teeth are anterior to the anterior facial arc (thru nasion, nasal spine, pogonion). It is pointed out that intraracial variability is so great that in some cases Negro and white standards are interchangeable. —W. M. Krogman.

266. BLAŽEK, F., BOROVÁ, E., HOLUB, J., & ŠIMKOVÁ, M. **Somatotyp v dětském věku.** (Somatotypes in childhood.) Česk. Pediat., 1960, **15**, 436-441. A simple method of determining the somatotype in children was sought by means of three indices in a group of normal school children and children coming in for medical care. The Brusgh index proved most valuable, which is simple to calculate and requires only measurement of the thoracic volume. This can be put to use in field work and wide surveys. —English Summary.

267. CORRIGAN, GILBERT E. (Wayne State Univer., Detroit, Mich.) **The neonatal scapula.** Biol. Neonat., 1960, **2**, 159-167. 60 specimens were obtained at random from the stillborn population of Columbus, Ohio, during the years 1954-1957. All were newborn and full-term (defined as a crown-heel length of 470-540 mm. and a body weight of 2500-4500 grams). The data were considered to support a concept of "parturitional proportions." Breadth of the scapula and length of the clavicle, the dimensions which are the most important in passage of the shoulder at birth, were among the least variable of the neonatal shoulder dimensions. Mean variability of all measurements of the neonatal scapula and clavicle was 15%; of breadth of the scapula, 2.9%; and of length of the clavicle, 4.8%. —D. H. Eichorn.

268. DOKLÁDAL, MILAN. **Rozměry hlavy jako doplněk k ocenění celkového tělesného vývoje dítěte.** (Head dimensions as a supplement for the estimation of the physical development of children.) Česk. Pediat., 1960, **15**, 448-461. The purpose of this paper is to describe the growth of the head during postnatal development (from birth to maturity). The main head dimensions (head circumference, head length, head breadth) were taken with 2879 Czech boys and 2763 girls from Brno. The obtained results were worked into statistics and three tables and eight graphs with detailed data are the outcome. The discussion analyzed the speed of growth and the variability of each studied feature, as well as their mutual relationship in different stages of development. By comparing the obtained results with the data of other authors, whose publications were issued before, it was proved that the present newborn children, infants, and preschool children have somewhat larger heads than their predecessors 30-60 years ago. During school attendance, however, these differences are practically annulled, so that we can say that the head dimensions of school children and of grown-ups remain in our country (Czechoslovakia) comparatively stable (compared with the past) and do not as yet display any evolutionary changes, similar to those that characterize a number of other somatic features. Even if this work does not aim at fixing norms, our tables of the growth of the head dimensions

may be found useful for the estimation of physical development of children—especially in conjunction with recently published tables of stature and weight. . . . —From English Summary.

269. FORBES, GILBERT B., GALLUP, JAMES, & HURSH, JOHN B. (Univer. of Rochester, N.Y.) **Estimation of total body fat from potassium-40 content.** Science, 1961, 133, 101-102. On the assumption that the potassium content of the lean body mass is constant, it should be possible to estimate fat content in living man from a measurement of potassium-40 activity in the whole-body scintillation counter. A series of such measurements on children and young adults shows good correlations with skin-fold thickness and weight/height ratio as indices of fatness. —Abstract.

270. FRY, EDWARD I. (Univer. of Nebraska, Lincoln) **Subcutaneous tissue in Polynesian children from Rarotonga, Cook Islands.** Hum. Biol., 1960, 32, 239-248. Caliper measurements of subcutaneous tissue were made on five body areas of 129 Polynesian boys 5 to 20 years of age from the island of Rarotonga, Cook Islands, South Pacific. One area was measured on 92 Rarotongan girls. The Rarotongan boys show a pattern of continuous tissue gains in childhood and adolescence, whereas most comparative groups make only slight gains during these periods. From 6 to 9 years, the Rarotongan girls lose subcutaneous tissue from their upper arm, but gain thereafter. The girls' pattern of gains is generally similar to that of other groups. An adolescent spurt of growth was seen for five or six dimensions when the allometric equation was applied to subcutaneous tissue and age. The average age of the Rarotongan boys at the onset of this spurt was 12.5 years. Growth spurts were not common when subcutaneous tissue was compared to weight. —Author's Summary.

271. HANSMAN, CHARLOTTE F. (4200 E. Ninth Ave., Denver, Colo.), & MARESH, MARION M. **A longitudinal study of skeletal maturation.** Amer. J. Dis. Child., 1961, 101, 305-321. The maturational status of the skeletons of healthy children has been a part of the longitudinal growth study of the Child Research Council. In an attempt partially to remove the stigma of "retarded bone age," the wide variability of carpal ossification compatible with health as well as sex difference in ossification has been demonstrated. In this group, all the girls had 8 visible carpal centers by 11 years of age, but all boys did not have the 8 centers until 14 years of age. The frequent skewness of biological data and the difficulties met in describing it are illustrated with this material. The range in skeletal ages, as assessed with the Greulich-Pyle Atlas, of this group of healthy children has been presented according to chronological age of 6-month intervals. The mean skeletal ages for the Child Research Council group are equal to the chronological ages during infancy but are less than the chronological ages from infancy to adolescence, when the skeletal ages of the girls again approach the chronological ages. When physical and skeletal maturation are compared in a group of 36 girls and 27 boys, certain patterns and relationships become apparent. The children whose skeletal ages are consistently above the group median by more than 12 months are the early-maturing children, while those with skeletal ages falling more than 12 months below the median for the group are the late-maturing children. Children whose skeletal ages remain within 12 months above or below the median comprise a heterogeneous group of average-, early-, and late-maturing children. About one-third of the girls of the group and a somewhat smaller proportion of boys show a lag in skeletal maturation during the childhood years, but each child "catches up" at about the time of his or her adolescence. Coefficients of correlation were computed from the chronological ages and the corresponding skeletal ages at which certain physical and skeletal characteristics closely associated with adolescence first were noted. These characteristics include menarche and breast development in girls and growth of the genitalia in boys, along with pubic hair and axillary hair and growth in height and hip width for both sexes. Adolescent changes in the skeleton, such as ossification of the first metacarpal sesamoid bone and the fusion of the capitellum to the shaft of the humerus, also were studied. For both boys and girls, the highest positive correlations involved only chronological ages. Skeletal ages at chronological ages of 4 and 8 years in most instances gave fairly good negative

correlations with the other items tested. The correlation coefficient between chronological age at menarche and skeletal age at menarche for this group of girls is +0.47. It appears that early-maturing girls tend to have their menarches at an earlier skeletal age, even though this age is accelerated over their chronological age, than do the later-maturing girls. This relationship suggests a multiplicity of factors upon which the growing-up process is based. No significant difference was found between the average ages at which menarche occurred in the girls studied and the average ages at which it occurred in their mothers. —Authors' Summary.

272. KRAUS, BERTRAM S. Prenatal growth and morphology of the human bony palate. *J. dent. Res.*, 1960, **39**, 1177-1199. Study is based on 151 fetuses and embryos, 7 to 18 weeks of age, cleared and stained simultaneously with KOH and alizarin red S. The author establishes and describes 8 morphologic stages in development. Each stage is figured and described. Measurements and indices are presented on a chronological basis. It is concluded that "the ossification of the bony palate and surrounding alveolar structures follows a pattern that exemplifies the principles of allometry." —W. M. Krogman.

273. KROGMAN, WILTON M. Maturation age of 55 boys in the Little League World Series, 1957. *Res. Quart. Amer. Ass. Hlth phys. Educ. Rec.*, 1959, **30**, 54-56. The skeletal ages of 55 boys in the 1957 Little League Baseball World Series were assessed from wrist-hand X-rays by use of Todd's 1937 standards. The CAs of these boys were: 9 of 13 years, 42 of 12 years, and 4 of 11 years. In skeletal maturity, 71% were advanced and 29% were retarded for their CAs. With correction of maturation age within \pm one year of CA, 5 were retarded and 25 were advanced. It was concluded that Little League ball players of championship caliber are, in general, biologically advanced. —H. H. Clarke.

274. LIVSON, NORMAN, & McNEILL, DAVID. (Univer. of California, Berkeley) Variability in male stature as function of adolescent maturation rate. *Science*, 1961, **133**, 708-709. Boys who mature very early and, to a lesser degree, those who mature later than average show less variation in stature than boys who are somewhat early in adolescent development. These variability differences are paralleled in the heights of the mothers and fathers except in the case of boys who mature very early; there is far less variability in height among these boys than among their parents. —Abstract.

275. LUNDSTRÖM, ANDERS. Some asymmetries of the dental arches, jaws, and skull, and their etiological significance. *Amer. J. Orthodont.*, 1961, **47**, 81-106. An interesting discussion of asymmetry in the human body, pointing out that it is the rule rather than the exception. In the jaws asymmetry may be qualitative (number of teeth, cleft palate) or quantitative (size of teeth, location of teeth in arches, relation of arches to supporting structures). Asymmetry may be either genetic or congenital. —W. M. Krogman.

276. MATHEWS, DONALD K., SHAW, VIRGINIA, & WOOD, JOHN B. Hip flexibility of elementary school boys as related to body segments. *Res. Quart. Amer. Ass. Hlth phys. Educ. Rec.*, 1959, **30**, 297-302. Both the Wells sit and reach test and an adapted form of Kraus-Weber floor touch test were administered to 158 boys in third, fourth, and fifth grades; three tests of body length and body weight were also given. No significant relationship was found between the body length measures when correlated with the two hip flexibility tests. 46.8% of the subjects failed the Wells test, while 54.4% could not pass the adapted Kraus-Weber test. —H. H. Clarke.

277. NEWMAN, MARSHALL T. (U.S. Natl Museum, Washington, D.C.) Adaptations in the physique of American aborigines to nutritional factors. *Hum. Biol.*, 1960, **32**, 288-313. The inverse relationship between mean body weights and mean environmental temperatures in native peoples of the Americas has been established on a statistically significant basis by the present study. The coefficient of correlation in 60 Eskimo and Indian samples is $- .729$, highly significant at the .0001 level. Thus about 50% of the total variance in mean body weight of New World aborigines is attributable to environmental temperatures. When mean statures are added to this

relationship, the multiple R rises to .878. Deviations from this pattern for various populations and factors to explain the remaining variance are discussed. Data drawn upon for this study are completely tabulated for the reader's reference. —From Author's Summary.

278. NICOLA, P. (Univer. of Torino, Italy), & ANSALDI, N. **Growth of the immature child from birth to the age of four.** Panminerva Medica, 1961, 3, 109-117. On the basis of a series of cases studied, the growth and somatic and morphological development of immature babies up to the age of four years are discussed. The conclusion is reached that in immature babies these values become normal after the second year. However, at the age of two years there are still some morphological features typical of an earlier age. The findings are discussed in the light of constitutional medicine. —Journal Summary.

279. NISWANDER, J. D., & SUJAKU, C. **Dental eruption, stature, and weight of Hiroshima children.** J. dent. Res., 1960, 39, 959-963. Data secured in 1950 and 1958 are compared. In that time average stature for 6-to-11-year-old children has increased 2.65 cm., while weight has increased 0.7 kg. Dental eruption has been accelerated. The authors speculate that the eruption speed-up may be due to more carious deciduous teeth and more frequent and earlier extraction thereof. For Japan as a whole incidence caries for 1949 to 1957 has gone from 43.39% to 76.70% in boys, from 41.75% to 76.70% in girls. —W. M. Krogman.

280. PROKOPEC, MIROSLAV. **Růst pražských dětí od narození do 18 měsíců ve střavnání s dětmi některých zahraničních velkoměst.** (The growth of Prague children from birth to 18 months of age as compared with some large foreign cities.) Cesk. Pediat., 1960, 15, 427-435. Data have been presented from the start of a long term follow up of Prague children according to the criteria of the Centre Internationale de l'Enfance, Paris. Preliminary results summarize data from 38 boys and 37 girls in the age range 1 to 18 months, and show that Czech children have a somewhat different rate of weight and height growth than children from other large foreign cities (a large spurt from 3 to 6 months). Birth weight is about the same, but 18-month values of weight and height are greater than foreign data. —English Summary.

281. PROŠEK, V. **Zkušenosti z prvního celostátního antropometrického šetření 1951 a vědecké a praktické požadavky na nové šetření.** (Experiences from the first national anthropometric survey in 1951, and scientific and practical requirements for the next survey.) Cesk. Pediat., 1960, 15, 422-426.

282. PYLE, S. IDELL, STUART, HAROLD C., CORNONI, JOAN, & REED, ROBERT B. **Onsets, completions, and spans of the osseous stage of development in representative bone growth centers of the extremities.** Monogr. Soc. Res. Child Develpm., 1961, No. 1 (Serial No. 79). 128 p. \$3.25. A sample of 21 bone growth centers was selected from all those appearing postnatally in the long, short, and round bones of the Hand, Elbow, Shoulder, Knee, and Foot. These have been studied in respect to the Onsets, Completions and Spans of their osseous development. The 34 boys and 44 girls whose series of films were used had been enrolled for periodic assessments which included radiographs of these areas. Skeletal Maturity charts and tables for boys and girls are presented to provide graphic norms of group data for these osseous indicators. 42 other figures are included to permit study of the variability between individual growth centers. It was found possible to select a representative sample of about one-third of the growth centers studied to cover the age range of these processes of ossification among individual children. The sex differences in maturity levels are discussed, as are the differences in variabilities between Onsets and Completions. It is shown that the age equivalents for Onsets and Completions vary greatly between children, but that each has a limited age period during which it customarily occurs. —Authors' Abstract.

283. SOBOVÁ, ALENA. **Porovnání grafických metod pro sledování vývoje dětí do 3 let.** (Comparison of graphic methods for follow-up of child development up to three years of age.) Cesk. Pediat., 1960, 15, 442-447.

284. SOLLEY, WILLIAM H. **Study of physique, change in physique, and speed in the growth patterns of school children, grades 1-8.** Res. Quart. Amer. Ass. Hlth phys. Educ. Rec., 1959, **30**, 465-478. The following three factors on the Wetzel Grid were used in this study: physique, change in physique, and speed of development. The grids of a total of 502 boys and girls, grades 1 to 8 were analyzed for one or more phases of the study. Of the three factors studied, changes in physique was the most variable; physique also showed a definite tendency to be more varied as grade level increased. Girls were more variable in all factors than were boys. Grade level showed little relation to changes in physique and speed. Physique apparently reflected changes in growth patterns in both speed and changes in physique; and speed of growth had a tendency to reflect changes in physique. —H. H. Clarke.

285. STOUDT, HOWARD W., DAMON, ALBERT, & MCFARLAND, ROSS A. (Harvard Sch. Public Hlth, Boston, Mass.) **Heights and weights of white Americans.** Hum. Biol., 1960, **32**, 331-341. Based on both published and unpublished data collected since 1930, the authors have attempted to compile national averages for height and weight for both male and female throughout the life span. The methods and checks used are described. These figures are intended as the best approximations that may be made from available data, not as definitive values. —D. H. Eichorn.

PHYSIOLOGY AND BIOCHEMISTRY

286. BELL, ROBERT W., REISNER, GERALD, & LINN, THEODORE. (Allegheny Coll., Meadville, Pa.) **Recovery from electroconvulsive shock as a function of infantile stimulation.** Science, 1961, **133**, 1428. 80 Wistar rats were handled at 2 to 5, 6 to 9, or 10 to 13 days of age, or not at all. In adulthood each group was split into halves with one-half of each group receiving electroconvulsive shock treatment. Assays of sugar concentration in the blood serum 24 hours after the convulsions indicated that subjects handled at 2 to 5 days of life exhibited no effect of the treatment, whereas all other groups showed marked increases in blood sugar concentration. —Abstract.

287. FLEISCHMANN, WALTER (Veterans Admin. Center, Mountain Home, Tenn.), FERRELL, CARL, FISCHER, ROBERT L., & ETTELDORF, JAMES N. **Effect of certain nor-steroids on creatine excretion.** J. Pediat., 1960, **57**, 370-375. (1) Urinary creatine excretion was studied in 5 children following the administration of normethandrolone and 6 children following the administration of norethandrolone. (2) Both normethandrolone and norethandrolone induce reversible creatinuria in children. (3) Administration of normethandrolone and norethandrolone is associated with a slight increase in urinary excretion of the creatine precursor, guanidinoacetic acid. (4) The mechanism of action of these compounds on creatine metabolism is possibly not identical with that of methyltestosterone and requires additional study in order to elucidate the mechanism of action. —Authors' Summary.

288. FLEISHER, DANIEL S. (2600 N. Lawrence St., Philadelphia, Pa.), MCCRARY, WALLACE W., & RAPOPORT, MILTON. **The effects of intermittent doses of adrenocortical steroids on the statural growth of nephrotic children.** J. Pediat., 1960, **57**, 192-198. The linear growth patterns of two groups of children with nephrosis were studied. One group received prolonged intermittent corticosteroid therapy to maintain remission and the other group (control) did not. Although the growth increments of each group were accelerated just prior to and following remission, those of the patients receiving intermittent corticosteroid therapy were significantly lower than the growth increments of the control group. These differences in growth rates were no longer significantly different when intermittent corticosteroid therapy was discontinued in the first group. Several aspects of growth changes occurring during the nephrotic syndrome are discussed. —Authors' Summary.

289. GIBBS, ERNA L., RICH, CATHERINE L., FOIS, ALBERTO, & GIBBS, FREDERIC A. (Univer. of Illinois Sch. Med., Chicago) **Electroencephalographic study of mentally retarded persons.** Amer. J. ment. Def., 1960, **65**, 236-247. Electroencephalograms, awake and asleep, were recorded on 1,118 mentally retarded subjects, ranging in age from 8 months to about 40 years, who did not have cerebral palsy or clinically evident epilepsy. Cases were graded according to intellect and age and subdivided into four etiologic categories. Extensive results are reported, including comparisons with results obtained from several other types of population. —J. W. Fleming.
290. GRASSO, E. (Clinica Pediatrica, Milano, Italy), BIANCHI, P., CROSTI, P. F., & ERMACORA, E. **The pathogenesis of haemorrhages in newborn babies: experimental observations of the platelet serotonin.** Panminerva Medica, 1961, **3**, 49-50. Fluorometry was used to determine the serotonin content of platelets isolated from 40 babies four days after birth, 8 babies aged 4 to 17 months, and 10 children 3 to 10 years old. The serotonin level in the platelets was found to be much lower among the newborn babies. The importance of this is discussed with regard to the pathogenesis of hemorrhagic disease in the newborn. —Journal Summary.
291. HADDAD, HESKEL M. (Washington Univer. Sch. Med., St. Louis, Mo.) **Studies on thyroid hormone metabolism in children.** J. Pediat., 1960, **57**, 391-398. Serum protein bound iodine and thyroxine-binding capacity and the rates of metabolism of I^{131} labeled thyroxine and triiodothyronine were estimated in 19 euthyroid children. While serum protein bound iodine and thyroxine-binding capacity did not differ from adult values, thyroid hormones were utilized at faster turnover rates in the child. The mean half life for thyroxine was 4.95 days and that for triiodothyronine 1.13 days. The mean turnover rates were 19.7 and 72.2% per day, respectively. When expressed in micrograms per unit of surface area of unit of body weight per day, the degradation rate is higher in the child than in the adult. —Author's Summary.
292. HILLMAN, ROBERT W. (State Univer. Coll. Med., Brooklyn, N.Y.) **Fingernail growth in pregnancy relations to some common parameters of the reproductive process.** Hum. Biol., 1960, **32**, 119-133. Fingernail growth rates and variations were measured in 618 pregnant women, including 241 white, 167 Negro and 210 Puerto Rican subjects. The mean growth rates and mean individual variations in rate were significantly greater in the prenatal group than rates reported for nonpregnant women. In general, the mean growth rates were most rapid in the third trimester, and declined during the postpartum period. Nail growth rates seemed influenced by factors of race and age, but not of parity. Variations in rate appeared related to parity, but not to race or age. Maternal nail growth rates and variation/rate ratios seemed related to infant birth weight, the secondary sex ratio, the frequency of abortion, and possibly to total complications. They appeared unrelated to birth length, maternal weight, or to the occurrence of toxemia and other complications. —Author's Summary.
293. KARLBERG, P. (Karolinska Sjukhuset, Sweden) **The adaptive changes in the immediate postnatal period with particular reference to respiration.** J. Pediat., 1960, **56**, 585-604. The aim of this article is to interpret the adaptive changes which occur in normal full-term newborn infants within the immediate postnatal period, especially with regard to respiration. A review of the problem is presented together with the report of 15 original cases of spontaneous cephalic deliveries. The period of time has been limited to 1-2 minutes after delivery during which time at least half of the adaptive changes seem to begin. The remaining changes progress in a decelerating fashion and continue up to several days of age. The key change in the respiratory adaption of extrauterine life is the aeration of the lungs. Inspiration of the first breath seems to be the main contribution to the aeration of the alveoli; however, there are several possible supporting mechanisms. The need of further studies in this field is emphasized. —From Author's Summary.
294. KUBALA, ALBERT L., & KATZ, MARTIN M. (Texas Woman's Univer., Denton) **Nutritional factors in psychological test behavior.** J. genet. Psychol., 1960,

96, 343-352. This study was undertaken to investigate the effect of a dietary deficiency in citrus products upon mental test performance, and to evaluate changes in performance after a period of supplementation with orange juice. Subjects from three schools ranging from kindergarten through the ninth grade as well as a group of college women were studied. On the basis of a pre-experimental determination of blood plasma ascorbic acid concentration, each subject was placed into either the higher range or the lower range group. Subjects in the higher range group were believed to show no indication of a dietary deficiency in ascorbic acid. Subjects within a given school system from the two groups were matched by case on a series of socio-economic indicators, and the matched groups were compared with respect to mean Intelligence Quotient on a pre-experimental test. In all four schools the mean Intelligence Quotient of the higher range group was larger than that of the lower range group, and the difference between the means of the combined higher and lower range groups was significant at the 5% level. The two groups were then compared with respect to gain in mean Intelligence Quotient after a period of supplementation with orange juice. The lower range group demonstrated a significantly larger gain than the higher range group. Subjects from the two elementary schools were tested a total of four times during the experiment. A plot of the means showed that changes in mean ascorbic acid concentration were closely paralleled by changes in mean Intelligence Quotient. The results indicate that nutritional factors may play a more important role in mental test behavior than has been previously assumed. The implications of these results for the "Nature versus Nurture" controversy are discussed. —Authors' Summary.

295. MILLER, HERBERT C., & CALKINS, LEROY A. (Univer. of Kansas Med. Center, Kansas City) **Neonatal respiratory morbidity.** Amer. J. Dis. Child., 1961, 101, 29-33. An immediate type of evaluation involving the measurement of time elapsing between birth and the onset of spontaneous, self-sustaining respiration was compared with a serial type of evaluation in which the resting respiratory rate was counted at intervals for several hours following birth. Each method by itself was helpful in making a prognosis concerning the survival of newborn infants, especially among infants with increased risk of respiratory morbidity, such as those born prematurely and full-term infants born by cesarean section. Neither method by itself offered as good a basis for predicting neonatal fatalities as the use of the two methods in combination. —Authors' Summary.

296. REARDON, HELEN SEIBERT (Temple Univer. Sch. Med., Philadelphia, Pa.), BAUMANN, MARY L., & HADDAD, E. JOHN. **Chemical stimuli of respiration in the early neonatal period.** J. Pediat., 1960, 57, 151-170. Analyses of the data related to the 3 chemical stimuli to respiratory activity, pH, pCO_2 , and pO_2 , in temporal artery blood of healthy full-term infants at various ages after birth indicate that: (1) Metabolic and respiratory acidosis are present at birth. Respiratory acidosis is usually corrected by the fourth hour of life. Metabolic acidosis is partially corrected in the majority of breast-fed infants in the first 24 hours of age by a slight elevation in bicarbonate, and buffer anions of hemoglobin, and a marked decrease in pCO_2 ; long-term correction over 4 days is apparently accomplished by an increase in bicarbonate. (2) During at least the first 3 days of life the plasma hydrogen ion concentration may be the important chemical stimulus to respiratory ventilation. (3) Cognizance of the chemical variations in healthy infants during this early age period is necessary for evaluation of sick infants. —Authors' Conclusions.

297. SALMI, TOIVO, HANNINEN, PENTTI, & PELTONEN, TUOMAS. (Univer. of Turku, Finland) **The electrocardiograms of premature infants in the first month of life.** Biol. Neonat., 1960, 2, 149-158. Several electrocardiograms recording bipolar limb leads have been taken from 100 healthy premature infants over a period of one month from birth. The durations of the waves and intervals were not essentially shorter and the amplitudes of the waves no larger for the prematures than have been observed for full-term newborn infants. The amplitudes of the waves of the QRS complex change uniformly in prematures: The amplitudes of the Q and R waves

in leads I and II and the amplitude of the S wave in lead III increase gradually during the first month of life. —From Authors' Summary.

298. SECKEL, HELMUT P. G. (Univer. of Chicago, Illinois) "Premature thelarche" and "premature metrarche" followed by normal adolescence. *J. Pediat.*, 1960, **57**, 204-209. A case report is presented of a healthy girl who, between 6 and 12 years of age, experienced 2 phases of sexual change with a silent interval between them. Phase I lasted from 6 to 7 4/12 years of age and was characterized by an isolated subliminal estrogenic response of mammary tissues and uterine mucosa. The latter response, consisting of irregular vaginal bleedings, occurred only during the first three months and ceased following an infection with measles. This phase was termed "premature thelarche and metrarche." The absence of sexual hair growth, or a somatic growth spurt, of positive estrogen laboratory tests, and of any other demonstrable cause for the premature vaginal spotting appeared to confirm the diagnosis. There following an interphase, from 7 4/12 to 9 years, of complete absence of all sexual phenomena. Between 9 and 12 years a perfectly regular picture of "early normal" adolescent maturation was observed, with the menarche at 11 years of age (Phase II). —Author's Summary.

299. SHEPARD, THOMAS H., II (Univer. of Washington Sch. Med., Seattle), WAXMAN, SORREL, BERNSTEIN, NAN, & FERRIER, PIERRE. Human growth hormone: II. Further study of its effect on growth in dwarfism. *J. Pediat.*, 1960, **57**, 363-369. A "hypopituitary" dwarf was treated during a 10-month period with human growth hormone. . . . there was a resultant spurt in growth associated with relatively slight, if any, maturation in body proportions and skeleton. Radiologic evidence of widening of the epiphyseal plates was noted. A constitutional or primordial dwarf was treated with similar amounts of growth hormone and failed to show significant reduction in urine nitrogen, changes in blood chemistries, or a spurt in linear growth. Neither patient had any apparent adverse reaction to the growth hormone. —Authors' Summary.

300. SMITH, OLIVE W. (Harvard Med. Sch., Boston, Mass.) Estrogens in the ovarian fluids of normally menstruating women. *Endocrinology*, 1960, **67**, 698-707. Fluid from the ovaries of normally menstruating women was collected and pooled in two lots, on the basis of menstrual dates and endometrial biopsies: one representing the proliferative phase of the cycle and the other the secretory phase. A steroid extract of each lot, to which trace amounts of radioactive estradiol, estrone and estriol had been added as internal standards, was purified by column chromatography, paper chromatography, methylation, and column and paper chromatography of the methyl esters. Fluorescence and radioactivity were measured at each step. Estradiol 17B and estrone were identified in both extracts. Estriol was identified in the extract of fluid collected during the luteal phase, but was not found in that of the proliferative phase. The biological activity of the luteal phase pool was entirely accounted for by its estimated content of estradiol, estrone, and estriol, while only 40% of the biological activity of the proliferative phase pool was thus accounted for. Both contained many unidentified phenolic steroids. —Author's Abstract.

301. STAHLMAN, MILDRED. (Vanderbilt Univer., Nashville, Tenn.) Ventilation control in the newborn. *Amer. J. Dis. Child.*, 1961, **101**, 216-227. (1) Alveolar CO₂ tension in the normal newborn is about 10 to 15 mm. Hg lower than adult alveolar CO₂ tension levels and rises to slightly below normal adult levels during the first two weeks of life, the most marked increase occurring at 5 to 6 days. (2) Alveolar ventilation, O₂ uptake, and CO₂ output are also increasing during the first two weeks of life, after which time they begin to level off. (3) The rate of rise of CO₂ output seems to be approximately the same for all infants during the first 2 1/2 weeks of life. (4) The newborn infant is unable to respond to inspired 4% CO₂ with increases in alveolar ventilation sufficient to prevent CO₂ retention and a rise in PAco₂. (5) As the infant grows older and his PAco₂ rises, he is able to respond more adequately to the stimulus of 4% CO₂ by increasing total ventilation, but an increase in dead space ventilation may produce CO₂ retention and a rising PAco₂ at this time. (6) Progesterone does not seem to be responsible for the newborn's low PAco₂. (7)

It is suggested that the ductus arteriosus, functioning as a left-to-right shunt and recirculating blood through the lungs without picking up additional tissue CO₂ may account, at least in part, for the newborn's initial low PAco₂. (8) As ductus flow diminishes and finally ceases and the systemic flow increases, a more effective removal of tissue CO₂ is produced, the PAco₂ rises, and responsiveness to CO₂ inhalation increases. —Author's Conclusions.

302. STERN, J., & LEWIS, W. H. P. (Fountain Hosp., London) **Blood magnesium in children with mongolism and other mentally retarded children.** Amer. J. ment. Def., 1960, **64**, 972-977. The serum magnesium level was found to be significantly higher than normal in 2 groups of children with mongolism aged 2 to 7 and 7 to 13 years and in other mentally retarded children in the age group 2 to 7 years but not in the age group 7 to 13 years. Magnesium values outside the normal range occurred in the first three groups. The mean red cell magnesium content was also raised in children with mongolism and other mentally retarded children; no difference in the red cell magnesium level was demonstrable between these groups. —From Authors' Summary.

303. STERNBACH, RICHARD A. (Massachusetts Gen. Hosp., Boston) **Some relationships among various "dimensions" of autonomic activity.** Psychosom. Med., 1960, **22**, 430-434. From a study of 42 male undergraduates, correlations were obtained among the following dimensions of autonomic activity: balance, tension, lability, and fluctuations, employing palmar skin resistance activity for the latter three concepts. Additional indices included reaction time, per cent - time alpha, and alpha recovery time. Correlations were generally small, but eight attained statistical significance, and it was judged that there was not enough independence among the dimensions to warrant their separate consideration. A warning against generalizing to the entire ANS from skin resistance data was offered, and provisional similarities and differences between Lacey's earlier findings and the results of the present study were noted. —Author's Summary.

304. SUTHERLAND, JAMES M., & RATCLIFF, JAMES W. (Children's Hosp. Res. Found., Cincinnati, Ohio) **Crying vital capacity.** Amer. J. Dis. Child., 1961, **101**, 93-100. Crying vital capacity is a simple, inexpensive, and useful method of studying one phase of respiratory physiology in the newborn infant. The relationship between birth weight and crying vital capacity measurements obtained in 93 infants without the neonatal respiratory distress syndrome can be expressed by a useful equation. The relationship between crying vital capacity and body size can be extended beyond the newborn period by an equation relating vital capacity to body length. Infants with the neonatal respiratory distress syndrome (hyaline membrane disease) have a decreased crying vital capacity. This may be a useful guide to prognosis and therapy. The fortunate observation in the first minutes of life of decreased crying vital capacity in a single infant who subsequently died with hyaline membranes suggests that more attention should be focused on prenatal and natal changes rather than upon postnatal adjustment to these changes. The unchanging crying vital capacity during the progressive course of the neonatal respiratory distress syndrome suggests a volume insult to which the infant adjusts by retraction and tachypnea. When these adjustments fail, progressive acidosis and cyanosis occur. —Authors' Summary and Conclusions.

305. SWYER, P. R., REIMAN, R. C., & WRIGHT, J. J. (Univer. of Toronto, Canada) **Ventilation and ventilatory mechanics in the newborn.** J. Pediat., 1960, **56**, 612-622. A method is described for the study of the mechanics of respiration in the newborn by measuring simultaneously the pressure in the esophagus and the air flow rate. Figures are given for 15 normal newborn infants for tidal and minute volumes, lung compliance, airway resistance, air flow rates, and the mechanical work of breathing. —From Authors' Summary.

306. VAN LEEUWEN, GERARD J., GUYER, EMILY J., & JACKSON, ROBERT L. (Univer. of Missouri Sch. Med., Columbia) **New concentrated dry frozen baby food.** Amer. J. Dis. Child., 1961, **101**, 44-48. 49 healthy infants after 4

months or more of age were fed a variety of new frozen concentrated baby foods. Tolerance of the infants of the foods and the mothers' reactions were carefully observed. The food was accepted by all infants in the study and was preferred by mothers who had had experience with other strained foods. Careful records were kept of the variety and amount of food taken. The infants had mean height and weight curves closely approximating the mean on the Iowa Growth Standards. None of the infants developed diarrhea, constipation or allergic manifestations as a result of ingestion of the food. Mild carotenemia was observed in 2 patients. All mothers were favorably impressed with the new frozen baby food. —Authors' Summary.

CLINICAL MEDICINE AND PATHOLOGY

- 307.** BORDT, DALE E. (Pitman-Moore Co., Zionsville, Ind.), WHALEN, JOSEPH W., BOYER, PHILIP A., PURSELL, ALFRED R., & STAFFIERI, FRANCIS P. **Poliomyelitis component in quadruple antigen: controlled clinical study of enhanced response of children.** J. Amer. med. Ass., 1960, **174**, 1166-1169. Antibody responses in children to primary vaccination (three doses at one-month intervals) with a combined poliomyelitis-diphtheria-tetanus-pertussis vaccine (Compligen) were studied and compared with responses to primary vaccination with poliomyelitis vaccine and DTP vaccine given separately. The poliomyelitis antibody responses were significantly greater with combined vaccine than with poliomyelitis vaccine alone, both in terms of percentage conversion from negative to positive for Type I and in terms of geometric mean post-immunization antibody level for all three types. The diphtheria antibody response to combined vaccine was significantly higher than that to DTP vaccine, while the tetanus and pertussis responses were essentially the same in either case. —Authors' Summary.
- 308.** BROWN, GORDON C. (Univer. of Michigan, Ann Arbor), & KENDRICK, PEARL L. **Serologic response of infants to a multiple vaccine for simultaneous immunization against diphtheria, pertussis, tetanus, and poliomyelitis, in relation to the presence of specific maternal antibody.** Amer. J. publ. Hlth, 1960, **50**, 1529-1538. Purpose of this study was to investigate the possibility of immunologic interference when multiple antigens are used. The subjects were 48 infants 2 to 4 months old registered at a well-baby clinic. They were injected three times at intervals of one month. 31 received a booster dose 6 to 12 months later. The majority showed a definitely poorer response to the poliomyelitis component of the vaccine than to the other components which was associated with the presence of maternally acquired passive antibodies. It is recommended that there be "serious consideration of delaying poliomyelitis vaccination of infants until maternal antibodies are more likely to be gone or at least reduced to a low level. . . . Such a delay in administration would not necessarily preclude the combination of poliomyelitis vaccine with triple vaccine since perhaps it, too, could be delayed without serious consequences." —I. Altman.
- 309.** CLAYTON, GEORGE W. (Baylor Univer. Coll. Med., Houston, Texas), & JOHNSON, CURTIS M. **Struma lymphomatosa in children.** J. Pediat., 1960, **57**, 410-415. The clinical, laboratory, and pathological findings in 12 children with struma lymphomatosa have been presented. Laboratory studies showed an abnormally low response to thyrotropic hormone. The difference between the levels of protein-bound iodine and of butanol-extractable iodine was greater than normal in all patients but one. The pathological studies obtained by needle biopsy and in one instance by an operative technique were described. The biopsies revealed the "hyperplastic type" of struma lymphomatosa in all instances. Possible explanations of the laboratory and pathological findings were discussed, and the therapeutic results of treatment with desiccated thyroid described. —Authors' Summary.
- 310.** CLEVELAND, WILLIAM W., GREEN, ORVILLE C., & MIGEON, CLAUD J. (Johns Hopkins Hosp., Baltimore, Md.) **A case of proved adrenocortico-**

tropin deficiency. J. Pediat., 1960, 57, 376-381. A case is presented of proved deficiency of pituitary adrenocorticotropin with apparently adequate elaboration of pituitary thyrotropic and gonadotrophic hormones. In the absence of a method for specific testing, the status of growth hormone elaboration remains obscure. —Authors' Summary.

311. CURTISS, PAUL H., Jr. (Western Reserve Univer. Med. Sch., Cleveland, Ohio), & TUCKER, HOWARD J. Sciatic palsy in premature infants: a report and follow-up study of ten cases. J. Amer. med. Ass., 1960, 174, 1586-1588. The occurrence of sciatic nerve injury in 10 premature infants following an intragluteal injection of medicament has been described. In all but one patient, recovery of a functional degree of active dorsiflexion occurred in from 1.5 to 7.0 months (average, 4.06 months). Six patients developed a mild, easily correctable equinovarus deformity, and all but one showed from 1 to 2 cm. shortening of the involved foot. The ventrogluteal or vastus lateralis injection site is suggested as a preferable target for intra-muscular injection, especially in the premature infant. —Authors' Summary.

312. de MAJO, SALVADOR F. (Univer. Buenos Aires, Argentina), & OÑATIVIA, ARTURO. Acromegaly and gigantism in a boy: comparison with 3 overgrown non-acromegalic children. J. Pediat., 1960, 57, 382-390. A case of acromegaly and gigantism in a child with clinical evidence of pituitary adenoma is reported. The acromegalic features appearing at the age of 9 years 4 months are studied in comparison with those of 3 constitutionally overgrown patients who showed neither thickening of the soft tissue nor roentgenologic changes of the bones which are characteristic of acromegaly. In the present case (acromegalogigantism), as in other cases reviewed, acromegaly occurs as an early manifestation simultaneously with increased growth, suggesting that both manifestations depend on the same etiologic factor rather than on the maturity of bones. —Authors' Summary.

313. DOLL, RICHARD (London Sch. Hygiene & Tropical Med., London), HILL, A. BRADFORD, & SAKULA, J. Asian influenza in pregnancy and congenital defects. Brit. J. prev. soc. Med., 1960, 14, 167-172. Following the introduction into Great Britain of the Asian strain of influenza virus A, and the epidemic that it caused in the latter half of the year 1957, steps were taken to identify women who had suffered an attack during their pregnancy. Special observations were then made of 177 infants subsequently born to (a) 88 women whose influenzal attack took place during their pregnancy, (b) 40 women whose influenzal attack preceded their pregnancy, and (c) 47 women whose attack was not regarded as one of influenza. No hazard to the foetus was detected in those cases in which the illness fell within pregnancy, or, in particular, in its early stages. A positive effect has been reported in some other studies and an increase in the stillbirth rate due to anencephaly has been recorded in Scotland in 1958 and (to a lesser extent) in 1959. It seems probable that infection of the mother with Asian influenza during the early months of pregnancy can increase the risks of anencephaly, but that the extent of the hazard is normally small. —Authors' Summary.

314. DOMAN, ROBERT J. (Rehabilitation Center, Philadelphia, Pa.), SPITZ, EUGENE B., ZUCMAN, ELIZABETH, DELACATO, CARL H., & DOMAN, GLENN. Children with severe brain injuries: neurological organization in terms of mobility. J. Amer. med. Ass., 1960, 174, 257-262. A program to test neurological organization as a method of approach to therapy was tried on 76 brain-injured children. A developmental mobility scale which described 13 levels of normal development as the criteria of progress was devised for the study. "The program consisted of permitting the child normal developmental opportunities in areas where the responsible brain level was undamaged, externally imposing the bodily patterns of activity which were the responsibility of damaged brain levels, establishment of hemispheric dominance and early unilateralization, respiratory improvement as measured by vital capacity, and sensory stimulation to improve bodily awareness and position sense." Preliminary results appear to be encouraging, and further studies of the procedures are to be undertaken. —I. Altman.

315. ELLWOOD, PAUL M., Jr. (Elizabeth Kenny Inst., Minneapolis, Minn.) **Cerebral lesions in infancy.** J. Amer. med. Ass., 1960, **174**, 1958-1961. The pediatric neurological examination has become increasingly reliable largely because of greater reliance upon developmental phenomena. However, the psychological immaturity of the infant brain confronts us with some inevitable barriers to early diagnosis. The shortcomings include (1) identical findings from widely-separated pathological sites and mechanisms; (2) limited knowledge of structures responsible for obliteration of infantile reflexes; and (3) prolonged delay in expression of lesions related to sensation, basal ganglia function, and intellect. A direct approach to the problem would be the use of screening tests, especially of a metabolic nature which measure cause rather than effect. —Author's Summary.

316. GAARD, R. A. **Ocular hypertelorism of Grieg: a congenital craniofacial anomaly.** Amer. J. Orthodont., 1961, **47**, 205-209. The true condition is congenital, involving the lesser wings of the sphenoid. Their excessive growth causes the orbits to be widely separated, with the result that the horizontal axes of the eyes are diverged more laterally than is normal. The author feels that "hypertelorism" is often incorrectly applied to a relatively simple condition involving only an excessive interpupillary width. The syndrome of Grieg is interrelated with many other craniofacial dysostoses. Several case histories are presented. —W. M. Krogman.

317. GORDON, BENJAMIN D. (Bridgeport Hosp., Conn.), & SPENCER, SAMUEL. **Hypogammaglobulinemia: common variant in children responsive to therapy.** J. Amer. med. Ass., 1960, **174**, 269-272. 17 cases of low blood levels of gamma globulin seen in the authors' practices are summarized. 16 of the patients had a personal or family history of allergy, an association which apparently has not been previously described; the significance of the finding is unknown. "Excellent therapeutic results were achieved with very small doses of gamma globulin in a concentration of 165 mg. per cubic centimeter of solution." —I. Altman.

318. HANVIK, LEO J., NELSON, SHERMAN E., HANSON, HAROLD B., ANDERSON, ARNOLD S., DRESSLER, WILLIAM H., & ZARLING, V. RICHARD. (Washburn Memorial Clinic, Minneapolis, Minn.) **Diagnosis of cerebral dysfunction in child.** Amer. J. Dis. Child., 1961, **101**, 364-375. ". . . The conclusion seems apparent that, at least in the sample of children studied with the diagnostic tools used in the study, the diagnosis of brain damage varies widely among the various diagnostic tools. Because of this variation and, also, because of the varying functions measured by different tools used for diagnosing brain damage, no one of the examination procedures investigated could evidently be considered a 'good' or final test for brain damage when used singly. Presumably, the wisest procedure to follow in ruling out brain damage in the type of patients studied here would be to use several diagnostic tools and then have one clinician assume the responsibility of making the final diagnosis by using any and all of the findings available, according to his own judgment. Preferably, the clinician assuming this responsibility should be a physician, even though some of the data provided for his use might be obtained through nonmedical practitioners. When this procedure was followed in the present study, over one-half of the child guidance clinic patients studied were given a diagnosis of brain damage. The hypothesis was advanced that, on the basis of this and other recent evidence, the incidence of brain damage among children with behavior problems might be much higher than has often been suspected in the past. . . ."

319. HAYLES, ALVIN B. (Mayo Clinic, Rochester, Minn.), DAHLIN, DAVID C., & COVENTRY, MARK B. **Osteogenic sarcoma in children.** J. Amer. med. Ass., 1960, **174**, 1174-1177. Over a period of 50 years, 1909-1959, 129 children have been diagnosed at Mayo Clinic as having osteogenic sarcoma. Follow-up of 126 patients shows a 5-year survival rate of 22.2% and a 10-year survival rate of 19.5%. Survival is influenced by the degree of malignancy, the location of the tumor, and the type of therapy administered. Early amputation is the treatment of choice when

the tumor arises in the extremities and there is no evidence of metastasis. No patient with a tumor arising at a site that precluded amputation survived 5 years, and only one patient treated with radiation therapy survived. —I. Altman.

320. JEBSEN, ROBERT H., JOHNSON, ERNEST W., KNOBLOCH, HILDA, & GRANT, DONALD KERR. (Ohio State Univer., Columbus) **Differential diagnosis of infantile hypotonia.** Amer. J. Dis. Child., 1961, **101**, 34-43. The final diagnoses in 31 cases of infantile hypotonia referred to the authors as diagnostic problems were almost equally divided between brain damage and motor unit diseases. Cases diagnosed as having brain damage tended to have abnormal birth histories and normal electromyograms and to show reduced mental and motor capacity and many abnormal neuromuscular patterns on Gesell examination. It is of interest that two of these cases had evidence of motor unit disease as well. Patients with motor unit diseases tended to have normal birth histories, abnormal electromyograms, and normal Gesell examinations except for decreased motor ability. —Authors' Summary.

321. KINZEL, RAYMOND C. (Mayo Clinic, Rochester, Minn.), **MILLS, STEPHEN D., CHILDS, DONALD S., Jr., & DEWEERD, JAMES H.** **Wilm's tumor: a review of 47 cases.** J. Amer. med. Ass., 1960, **174**, 1925-1929. Of 85 patients who were suspected clinically of having Wilm's tumor and who were seen at the Mayo Clinic during a 15-year period, 47 had histological proof of the disease. About one-half of the 47 patients were less than 3 years of age when the diagnosis was made. The presenting complaint was a palpable abdominal mass in about three-fourths of the cases. The excretory urographic examination was considered an adequate diagnostic tool in most cases. The lung was the most common site of metastasis. The most effective treatment consisted of preoperative radiation, nephrectomy, and postoperative radiation, with a three-year survival rate of 57%. The most important prognostic factor was found to be the age of the patient: the five-year survival rate was 67% for those less than 2 years old at the time of diagnosis. The three-year survival rate was 37% on the basis of the total series of 43 traced patients, but 44% on the basis of the 36 operable patients. —Authors' Summary.

322. KNAPP, MILAND E. (Elizabeth Kenny Inst., Minneapolis, Minn.) **Physical medicine in rehabilitation for arthritis in children.** J. Amer. med. Ass., 1960, **174**, 1951-1953. Physical methods of treatment of arthritis in children differ from those used in adults only with respect to the problems that are peculiar to children. These are (1) disturbances of growth; (2) difficulty in controlling the child; (3) the greater natural activity of children; and (4) the longer life expectancy in children. Cooperation between the pediatrician, the psychiatrist, and other consultants is of paramount importance. Home treatment programs, if carried out in detail, provide the best and most available therapy of these small patients because of the prolonged periods involved. —Author's Summary.

323. KRUGMAN, SAUL (New York Univer. Sch. Med., New York City), **WARREN, JOEL, EIGER, MARVIN S., BERMAN, PETER H., MICHAELS, RICHARD M., & SABIN, ALBERT B.** **Immunization with live attenuated poliovirus vaccine.** Amer. J. Dis. Child., 1961, **101**, 49-55. These studies indicate that a single dose of 1 ml. of undiluted vaccine given on the day of birth results in the establishment of intestinal infection in about 80% to 90% of the infants. It is possible that 0.1 ml. of undiluted vaccine may be equally effective, but a definitive conclusion on this question will not be possible until the final data are available. Feeding of the trivalent vaccine in maximal dosage led to regular multiplication only of Type 2 virus and only rarely of Types 1 and 3. At three months after feeding, some children had definite evidence of active antibody formation, while in others it was either absent or still masked by high levels of residual placentally transmitted antibody. At the present time it seems wise to await the results of further antibody tests at 6 months of age and of studies on intestinal resistance and antibody response to reinfection before reaching any decision about the use of live poliovirus vaccine during the first days after birth. One thing, however, is already clear—that monovalent

rather than trivalent vaccine will have to be used, and Type 1 should therefore be the first to be administered. —Authors' Summary and Conclusions.

324. LESNY, IVAN, & VOJTA, VACLAV. (Charles Univer., Prague, Czech.) **Eserine activation of the EEG in children.** *EEG Clin. Neurophysiol.*, 1960, **12**, 742-744. There are some children with histories suggestive of epilepsy that have otherwise normal EEG records. For such cases there is need of a suitable method of activation of the EEG which doesn't evoke major clinical fits. We have found eserine, which is not dangerous, is therefore an ideal method of EEG activation in such children. The specific changes (spikes and waves, spikes, rhythmic synchronous slow wave episodes) occurred after eserine in 39 of 71 children (55%). —From Authors' Conclusions.

325. LEWIS, T. L. T. (Guy's Hosp., London) **Leukaemia in childhood after antenatal exposure to X rays. A survey at Queen Charlotte's Hospital.** *Brit. med. J.*, 1960, **2**, 1551-1552. Of 1548 children who died of leukemia in England and Wales between 1953 and 1958, eight were born at Queen Charlotte's Hospital. On the basis of the known incidence of leukemia in the child population, the expected number of leukemic deaths among children born at this hospital for this period was 6.6. During the 16-year period 1943-1958, 25.3% of 11,443 fetuses were exposed to antenatal radiation. Only one of the 8 children with leukemia had received any radiation. The incidence of leukemia in the nonirradiated cases was calculated at one in 1,808 and in the irradiated cases at one in 4,291 fetuses. From these data, it was concluded that antenatal radiation could not be implicated as a causative factor in the 8 children who developed leukemia. —W. W. Sutow.

326. LYNN, HUGH B. (Children's Hosp., Louisville, Ky.), & REED, RICHARD C. **Wringer injuries.** *J. Amer. med. Ass.*, 1960, **174**, 500-502. Clinical experience with 423 patients seen at the Children's Hospital in a six-year period is summarized. About two-thirds had only minor contusions and abrasions, but 2% had fractures and 16% required skin grafts. All such patients should be hospitalized until the extent of the injury is known. Early medical attention is extremely important. But "By all odds, the best treatment is preventive. Prevention implies an effort to perfect safeguards on electric washing machines and the education of parents to the hazards of the wringer." —I. Altman.

327. MOSIER, H. DAVID (Univer. of California Sch. Med., Los Angeles), SCOTT, LAWRENCE W., & DINGMAN, HARVEY F. **Sexually deviant behavior in Klinefelter's syndrome.** *J. Pediat.*, 1960, **57**, 479-483. A comparison between 10 mentally deficient individuals with chromatin-positive Klinefelter's syndrome and a control group of mentally defective males showed a much higher incidence of sexually deviant behavior among those with Klinefelter's syndrome. This difference was statistically significant, with a probability of occurrence by chance of less than 0.0025. A sex chromatin survey on 600 institutionalized male sexual psychopaths showed that 6 or 1.0% were chromatin positive. This incidence, while above that of the general population, may have been brought about by certain social factors tending to favor the commitment of men with the abnormalities found in Klinefelter's syndrome. Recent observations in Klinefelter's syndrome indicate that chromatin testing should be done on boys with mental deficiency or with serious personality or behavioral disturbances, especially in those instances when Mongolism or twinning has occurred in the same sibship. —Authors' Summary.

328. O'SULLIVAN, JOHN B. (Boston City Hosp., Mass.), REDDY, WILLIAM J., & FARRELL, MALCOLM J. **Adrenal function in mongolism.** *Amer. J. Dis. Child.*, 1961, **101**, 63-66. The adrenal response to intramuscular and intravenous corticotropin (ACTH) was studied in a group of 13 mongoloid patients. Adrenocortical function in the resting mongoloid subject was found to be normal, as indicated by 17-hydroxycorticosteroid levels in 24-hour urinary specimens (50 determinations on 32 patients) and in the plasma (6 patients). Normal diurnal variation was present in

12 of 18 subjects tested. Stimulation with corticotropin showed the adrenal capacity to respond. Continued stimulation indicated this capacity to be subnormal, if judged by normal adult standards. In 2 subjects, suppression with fluorocortisone was successful. It is concluded that adrenal function in mongoloids is adequate for their needs, despite an apparent sluggish pituitary-adrenal axis. The additional possibility of a defect in corticoid metabolism in some of these patients is discussed. —Authors' Summary and Conclusions.

329. PAULI, LYDIA (Johns Hopkins Univer. Sch. Med., Baltimore, Md.), O'NEIL, RICHARD, YBANEZ, MANUEL, & LIVINGSTON, SAMUEL. **Minor motor epilepsy: treatment with corticotropin (ACTH) and steroid therapy.** J. Amer. med. Ass., 1960, **174**, 1408-1412. The most serious hazard of minor motor epilepsy is the associated mental and motor retardation, or both, which is found in some degree, in essentially all patients. The use of corticotropin or steroids has been recommended in recent publications. The present study comprises 14 children with minor motor epilepsy, mental retardation, and hypersyntropic electroencephalographic abnormalities. Corticotropin was given alone in 8 cases; corticotropin was followed by triamcinolone in one; cortisoneacetate was given in 2 cases, and prednisone was given in 2 cases, and triamcinolone was given alone in one case. In 4 cases, there was improvement with respect to seizures, but in no case was there significant improvement in mental status. —Journal Summary.

330. ROWLAND, SPENCER A. (Mayo Clinic, Rochester, Minn.), DAHLIN, DAVID C., HAYLES, ALVIN B., & SULLIVAN, C. ROGER. **Diagnosis and treatment of bone tumors in children.** J. Amer. med. Ass., 1960, **174**, 489-491. A search of Mayo Clinic files turned up 338 cases of verified bone tumors in children under 15 years. Of these, 193 were malignant and 145 benign, with osteogenic sarcoma the most frequent type of malignant tumor. Treatment for these tumors is outlined. "This regimen seems justified on the basis of our over-all five-year survival rate of 18.1% in the treatment of 106 osteogenic sarcomas. . . . Thus pessimism regarding prognosis in the treatment of malignant disease of bone should not be carried to the extent that treatment is delayed or postponed because of misconception that bone cancer means inevitable death." —I. Altman.

331. SHEPARD, EARL E. **The habilitation of the congenital cleft palate patient.** Amer. J. Orthodont., 1961, **47**, 124-145. After briefly surveying the embryological picture and etiological factors in the cleft palate, together with statistics of frequency (by sex, age, type of cleft lip/palate), the author discusses the team approach. Here would be combined medical, dental, and psychosocial approaches, including speech therapy. Only by this team method can the patient "be stimulated to reach a more normal level of health, function, and esthetics." —W. M. Krogman.

332. SHUSTER, S. (Welsh Natl Sch. Med., Cardiff), JONES, J. H., & KILPATRICK, G. S. **Leukaemia and foetal haemoglobin: a case study.** Brit. med. J., 1960, **2**, 1556-1558. A case of a girl with leukaemia presenting as a haemolytic anaemia associated with 19% foetal haemoglobin is described. Evidence suggestive of a defect in her red cells was found. The possible significance of these findings is discussed in relation to the genetic hypothesis for the aetiology of leukaemia. —Authors' Summary.

333. SKINNER CLIFFORD W., Jr. (Univer. of Colorado Sch. Med., Denver) **The rubella problem.** Amer. J. Dis. Child., 1961, **101**, 104-112. The rubella syndrome consists of the complications of pregnancy and the congenital defects in the infant following maternal rubella. Congenital defects have been documented in approximately 9% to 12% of infants whose mothers developed rubella during the first trimester of pregnancy. In spite of immunity to rubella in the mother, the fetus may still be attacked by the rubella virus during the first trimester of pregnancy. Rubella may be a difficult diagnostic problem, and, although there are several methods available for prevention of the rubella syndrome, none is completely effective or safe. —Author's Summary.

334. STALLYBRASS, F. C. (Univer. Coll. Hosp., London) **Anencephaly in uniovular twins. Report of a case.** Brit. J. prev. soc. Med., 1960, 14, 136-138. Anencephaly is described in one of uniovular twins born to a 37 year old mother. Because of pronounced hydramnios and edema, pregnancy was terminated in the 35th week by artificial rupture of the membranes. The placenta consisted of one chorion and two amnions. Of the stillborn twins, both males, the normal fetus weighed 526 grams and the anencephalic fetus 621 grams. —W. W. Sutow.
335. STEPHEN, C. R. (Duke Univer. Med. Center, Durham, N.C.), DENT, SARA J., HALL, K. D., KNOX, PAUL R., & NORTH, W. C. **Body temperature regulations during anesthesia in infants and children.** J. Amer. med. Ass., 1960, 174, 1579-1585. Constant monitoring of body temperature helps to prevent complications associated with hypothermia and hyperthermia. The anesthetized child is likely to lose heat in modern, air-conditioned operating rooms. Data from a series of 600 children 1 day to 12 years old showed that a considerable number lost body heat; this was especially apt to occur among children under 6 months. It is suggested that the body temperature be monitored continually during a major surgical procedure. A heating-cooling apparatus is described which automatically regulates the temperature of the patient to within 0.5° C. of the level preset by the physician. —I. Altman.
336. STRAFFON, RALPH A. (Cleveland Clinic Found., Ohio), & ENGEL, WILLIAM J. **Diagnosis and treatment of urinary tract infection in children.** J. Amer. med. Ass., 1960, 174, 1377-1381. A group of 74 children, 61 girls and 13 boys under 14 years, with a history of recurrent urinary tract infection was studied with a view to the design of a therapeutic program. 60 had been treated conservatively, and 14 had undergone surgery. The data "suggest that conservative therapy that is vigorous and well managed offers the best chance of curing those children who have recurrent urinary tract infection. Surgical intervention may be necessary if renal function deteriorates during administration of the therapeutic program, or should severe obstructive changes develop. In these instances the operation of choice would seem to be a vesical neck plastic procedure with reimplantation of the ureters to prevent reflux. A postoperative long-term course of antimicrobial therapy should be administered as an attempt to eradicate the coexisting infection." —I. Altman.
337. VAN WYK, JUDSON J. (Univer. of North Carolina Sch. Med., Chapel Hill), & GRUMBACH, MELVIN M. **Syndrome of precocious menstruation and galactorrhea in juvenile hypothyroidism: an example of hormonal overlap in pituitary feedback.** J. Pediat., 1960, 57, 416-435. A syndrome associated with juvenile hypothyroidism is described, the cardinal feature of which is sexual development beyond that consistent with the bone age and other indices of maturity. The 3 girls described in this paper had precocious menstruation, galactorrhea, absence of pubic hair, and enlargement of the sella turcica. One patient was excessively pigmented. These abnormal signs disappeared promptly when the hypothyroid state was alleviated. Serial X-rays of the skull after treatment with thyroid was instituted revealed an initial period of further enlargement and demineralization of the pituitary fossa followed by a decrease in its size toward normal. A normal menarche later ensued in 2 of the girls when the level of maturity had progressed appropriately. The implications of the close similarity between the findings in this syndrome and in patients with pituitary tumors are discussed. A primary target gland deficiency is suggested as the etiologic factor in at least some patients with chromophobe adenomas. It is postulated that the mechanism for the development of menorrhagia, galactorrhea, and pigmentation in these patients was an overlapping secretion of gonadotropin-mammotrophic hormone, and (in one case) melanocyte-stimulating hormone along with the presumed high level of thyroid-stimulating hormone. A similar overlap in pituitary hormones occurs in experimental pituitary tumors induced by single target gland deficiencies and in certain clinical endocrine disorders. This lack of specificity in the pituitary feedback mechanism, so strikingly demonstrated in the present syndrome, is suggested as the mechanism responsible for a number of phenomena commonly observed in clinical endocrine disorders. —Authors' Summary.

PSYCHOLOGY

338. AMATORA, SISTER MARY. (St. Francis Coll., Fort Wayne, Ind.) **Expressed interests in later childhood.** *J. genet. Psychol.*, 1960, **96**, 327-342. This investigation of interests of children in the later childhood period from various sections of the country was designed to ascertain the true interests of these boys and girls by according complete freedom in the expression of their interests. Responses for boys and for girls were tabulated separately. These resulted in nine interest categories including possession of objects, good life, pets, vocation, travel, relatives, money, school, and education. The few remaining items were listed under miscellaneous. Data were analyzed for each sex separately for first, second, and third choices of interest. Weighted scores for each category of interest for boys, for girls, and for sexes combined were likewise computed. Those interest categories showing the highest percentages were given separate and more detailed analysis. —Author's Summary.

339. AMES, LOUISE BATES. (Gesell Inst. of Child Development, New Haven, Conn.) **Constancy of content in Rorschach responses.** *J. genet. Psychol.*, 1960, **96**, 145-164. Content of Rorschach responses of 8 girls and 21 boys tested annually from 2 to 10 years, and of 35 girls and 30 boys tested annually from 10 to 16 years (not every subject available at every age), was analyzed to determine the extent to which individual subjects gave identical responses from age to age. It was found that both girls and boys in the younger group gave consistent responses (same content on any one card on four or more consecutive tests) on a mean of 3.9 cards per subject. At older ages, means for constant responses per subject were 4.8 for girls, 5.0 for boys. Thus the number of cards on which consistent responses are given increases with age. . . . —From Author's Summary.

340. BAER, DONALD M. (Univer. of Washington, Seattle) **Effect of withdrawal of positive reinforcement on an extinguishing response in young children.** *Child Develpm.*, 1961, **32**, 67-74. Young children were taught to press a bar for peanuts. During later extinction of this response, five Punishment subjects were punished by turning off a cartoon they were watching at the time for two seconds as a consequence of every response. This served to depress the response considerably, relative to five Control subjects who were not punished for responding while watching the same cartoons. During later sessions, Control Ss showed considerable spontaneous recovery of the response, and Punishment Ss did not, even though no longer punished. It was concluded that the withdrawal of positive reinforcement is an effective technique of punishment, at least in situations like the experimental one. —Author's Abstract.

341. BANGS, TINA E. **Evaluating children with language delay.** *J. Speech Hearing Disorders*, 1961, **26**, 6-18. Systematic review of the process of study of language-delayed children before speech rehabilitation starts, consisting of advice concerning initial interviews, observation classes, psychometric testing, language level tests, perceptive tests, social maturity, etc. —M. F. Palmer.

342. BARDET, C., MOREIGNE, F., & SÉNÉCAL, J. **Application du test de Goodenough à des écoliers africains de 7 à 14 ans.** (Application of the Goodenough test to African school children 7 to 14 years of age.) *Enfance*, 1960, No. 3-4, 199-208. The Goodenough Draw-A-Man test was used to compare an African sample with a European one. Drawings of 91 girls and 412 boys from Dakar plus those of 48 girls and 199 boys from rural Khombole were analyzed. Drawings were usually placed in the middle of the paper and towards the upper end. The total height of the person drawn increased regularly with age. The IQs computed from the drawings were lower than usually found in Europe (70-100). MA obtained on the test seemed more related to years of education (regardless of age of beginning) than with CA and was not at all related to pupil's academic success. No differences in technique or graphic clumsiness appeared in the African sample. Likewise the figure was similar to that drawn by Europeans. Cowboys and football players were included, and dress was more

often Western than African. Girls often drew feminine figures; no males drew women. —F. V. Bussgang.

343. BARNARD, JAMES W., ZIMBARDO, PHILIP G., & SARASON, SEYMOUR B. (Yale Univer., New Haven, Conn.) **Anxiety and verbal behavior in children.** Child Develpm., 1961, **32**, 379-392. In order to study the relation between anxiety and certain aspects of verbal behavior (especially expression of affect) standarized interviews were administered to 48 third-grade children of both sexes, matched for IQ, but varying in their level of test anxiety. The Ss' perception of the interview situation was manipulated by evaluative or permissive instructions. The evaluative treatment was designed to cue off anxiety, and the permissive treatment was designed to alleviate anxiety. The major findings were that high anxious children in an evaluative interview situation express more negative affect than low anxious children in the same situation and that this difference does not exist under a permissive interview condition. This difference is accentuated when the expression of negative affect is inappropriate to the stimulus question. Further, this difference seems to become greater as the negative affect becomes more extreme. In describing other people who are important to him, the high anxious child tends to be relatively more concrete in his descriptions than the low anxious child, and this difference is enhanced by the experimental treatment. The responses of the high anxious Ss were more incomprehensible than those of the low anxious Ss under both experimental conditions. —Authors' Abstract.

344. BIALER, IRV., & CROMWELL, RUE L. (George Peabody Coll., Nashville, Tenn.) **Task repetition in mental defectives as a function of chronological and mental age.** Amer. J. ment. Def., 1960, **65**, 265-268. 23 educable mentally retarded children, of both sexes, were given the repetition-choice technique involving two jigsaw puzzles. S was allowed to complete one of these puzzles and was interrupted on the other one. After this experience of success and failure, S was again asked to choose one or the other activity to complete. 13 Ss returned to the success task and 10 returned to the failure task. As predicted, both MA and CA were related to the repetition-choice, children at the younger age levels in each case tending to return to the successful activity and those at the older age levels tending to return to the failed activity. —From Authors' Summary.

345. BIJOU, SIDNEY W. (Univer. of Washington, Seattle) **Discrimination performance as a baseline for individual analysis of young children.** Child Develpm., 1961, **32**, 163-170. The question raised in this study was whether unequivocal relationships can be shown in the individual performance of young children. Data taken in a free operant situation from three preschool children show that stable performance of two minutes of responding in the presence of an amber light and two minutes of no responding in the presence of a blue (a pattern which took from six to eight days to establish) was altered by the introduction of a new stimulus (a pair of toggle switches allowing the child to control the lights). The performance of one child was most affected the first day, less on the second, and by the third day it was similar to the baseline performance. The change in behavior of the second child was slight on the first day and increased on the second and third. Recovery began on the fourth day. Changes in the third child, like the first, were greatest on the first experimental day. However, her "recovery rate" was slower than the first child's. In the fourth session after installation of the switches, her performance was still below her baseline day. —Author's Abstract.

346. BLOODSTEIN, OLIVER. **The development of stuttering: I. Changes in nine basic features.** J. Speech Hearing Disorders, 1960, **25**, 219-237. 336 males and 82 females at the Brooklyn College Speech and Hearing Center diagnosed as stutterers, ranging in age from 2 to 16 years, were studied relative to repetitions, hard contacts, associated symptoms, etc. Relatively simple repetition, hard contacts, and pressure symptoms dominate early stuttering. The tendency to repeat whole words disappears as stutterers grow older. Four stages of development of associated symptoms may be outlined: (1) little overt reaction; (2) self-concept as a stutterer with no emotional

reactions; (3) annoyance, frustration, disgust, or anger; (4) fear and embarrassment.
—M. F. Palmer.

347. BLOODSTEIN, OLIVER. **The development of stuttering: II. Developmental phase.** *J. Speech Hearing Disorders*, 1960, 25, 366-376. The case records of 418 stutterers from age 2 to 16 were examined from the point of view of the temporal relationship in which various features of stuttering emerge. Four generalized phases were found: (1) episodic difficulty, occurrence on initial word of sentence, occurrence on small parts of speech, repetition, intensification by variable sources of pressure; (2) stuttering primarily when individual says he talks fast and gets excited, on major parts of speech, and with reaction of the case that he is a stutterer; (3) more difficulty in some situations, word substitutions, etc., and with mild emotional reactions; (4) vivid anticipation, special difficulties in response to various sounds, listeners, etc., frequent word substitution, avoidance of speaking situations and other evidences of fear and embarrassment. —M. F. Palmer.

348. BLOODSTEIN, OLIVER. **The development of stuttering: III. Theoretical and clinical implications.** *J. Speech Hearing Disorders*, 1961, 26, 67-82. The last of three articles on the course of the development of stuttering based on the study of the clinical records of 418 stutterers from 2 to 16 years of age. The concept of primary and secondary stuttering is inadequate and misleading. At every level of development integral symptoms of stuttering may be viewed as anticipatory struggle behavior consisting of tension and fragmentation in speech. Stuttering is not caused directly by fear or anxiety as much as by the stutterer's anticipations, predictions, of preconceptions of speech. Each of the four major phases into which the development of stuttering may be divided demands an essentially different method of clinical treatment. —M. F. Palmer.

349. BOLDUC, THOMAS E. **Social value-need patterns in mental retardates.** *J. consult. Psychol.*, 1960, 24, 472-479. Social values in a group of female adolescent mental retardates were investigated by means of a specially constructed, forced-choice inventory. The values involved in constructing the inventory were honesty, loyalty, moral courage, and responsibility. These were posited against the needs: nurturance, succorance, dominance, affiliation, and deference. The results were factor analyzed. The writer feels that six "clearly defined" factors emerged. —E. E. Levitt.

350. BUDOFF, MILTON. (Univer. of Massachusetts) **The relative utility of animal and human figures in a picture-story test for young children.** *J. proj. Tech.*, 1960, 24, 347-352. This study investigated the relative psychological usefulness of pictures portraying animals in a human-like setting and human figures in the same settings in eliciting fantasy stories from young children. The hypothesis tested was stated by Bellak, who originally formulated the Children's Apperception Test, that children would identify more readily with animals than humans. In the study reported here, the pictures of the CAT were redrawn replacing the animal figures with humans. These two sets of pictures were shown to 18 4-year-old children of superior intelligence, attending a university nursery school. The measure employed in analyzing the data included a word count, a qualitative judgment of story level, and the mean transcendence level of each picture. The results indicated that the children utilized the two groups of pictures equally well and failed to confirm Bellak's hypothesis for a preschool group of normal children. —From Author's Summary.

351. CASTANEDA, ALFRED, FAHEL, LEILA SNYDER, & ODOM, RICHARD. (Univer. of Texas, Austin) **Associative characteristics of sixty-three adjectives and their relation to verbal paired-associate learning in children.** *Child Developm.*, 1961, 32, 297-304. The present report describes the word associations and the relative frequency with which they occurred in a sample of 82 fourth, fifth, and sixth grade children to a list of 63 common adjectives. Also, two lists composed either of high or low association values between the to-be-learned stimulus and response items were constructed from the standardization list and employed in a paired-associate learning

experiment with fifth and sixth grade children. Learning by the anticipation method was found to be significantly better the higher the association values. —Authors' Summary.

352. CHARLES, DON C., & PRITCHARD, SALLY ANN. (Iowa State Univer., Ames) **Differential development of intelligence in the college years.** *J. genet. Psychol.*, 1959, **55**, 41-44. The purpose of this study was to answer two questions: (a) Does A.C.E. score change significantly during college years? (b) Is change in A.C.E. score during the college years related to the sex of the students? A sample of 112 college seniors (61 men and 51 women) was retested after four years with the A.C.E. The results: (1) There was a significant rise in score on the A.C.E. in the college years for the 112 subjects. (2) An analysis of covariance comparing the final mean scores of men and women adjusted for initial differences showed no significant differences at the .05 level in amount of change in score on the A.C.E. At the .10 level there was a significant sex difference which showed that women gained more. It was inferred, therefore, that men must make up any inferiority of intelligence test score before college age. —Authors' Summary.

353. CLARKE, H. HARRISON, & CARTER, GAVIN H. **Oregon simplification of the strength and physical fitness indices.** *Res. Quart. Amer. Ass. Hlth phys. Educ. Rec.*, 1959, **30**, 3-10. After experimentation with chronological age and eight anthropometric tests, weight and age were chosen as the basis for norms. The following multiple correlations were obtained between the Strength Index and the various test items composing the SI battery: for upper elementary school boys, .977 for leg left, back lift, and push-ups; for junior high school boys, .987 for leg lift and Rogers' arm strength score, .998 when right grip was added; for senior high school boys, .985 for leg lift and Rogers' arm strength score, .996 when back lift was added. Regression equations were computed for each of these multiple correlations, so that the Rogers' SI norms could be used to obtain the Physical Fitness Index. —Authors' Summary.

354. COX, F. N., & LEAPER, PATRICIA M. (Univer. of Melbourne, Australia) **General and test anxiety scales for children.** *Austral. J. Psychol.*, 1959, **11**, 70-80. Sarason's Test and General Anxiety Scales for Children (modified to Australian idiom) were administered to a sample of 957 children in 3rd, 4th, and 5th grades designed to be representative of the Melbourne urban area. Full normative data for the sample are presented; high split-half reliability coefficients (.94, .99) were obtained, and significant coefficients (.54, .57) on a group of 55 children retested after a 9-month interval were reported. Detailed internal consistency item analysis indicated a high level of homogeneity of item content. Score distributions showed patterns similar to data in American and English studies; girls obtained consistently higher scores on both scales (except TAS at 3rd grade level). No meaningful relation was, however, found between TAS scores and grade level. Significant correlations between the two scales (ranging between .46 and .61) were reported for the separate grades and sexes. Of the nine "lie" scale items, however, only two were at all inconsistent with total scale scores. In the light of consistency of Australian data with American and English data, it is concluded that "the scales can be applied (in Australia) for the purposes for which they were originally designed." —R. Debus.

355. CRANDALL, VAUGHN J., & PRESTON, ANNE. (Fels Research Inst., Yellow Springs, Ohio) **Verbally expressed needs and overt maternal behaviors.** *Child Devolpm.*, 1961, **32**, 261-270. This study explored relations between certain verbally-expressed needs of middle-class women (as measured by their Edwards PPS responses) and the overt behavior these women displayed toward their children. Data regarding the latter were obtained from home visit observations of mother-child interactions and subsequent ratings of these maternal behaviors using the Fels Parent Behavior Rating Scales. Four general hypotheses were tested. These were: Hypothesis I: "Middle-class women's verbally-expressed aggression will be negatively correlated with the amount of affection they display toward their children." Hypothesis II: "The Ss' expressed need to nurture others will be positively associated with the protectiveness they exhibit with their children." Hypothesis III: "Women

with high n autonomy will be less protective of their children than will women with low n autonomy." Hypothesis IV: "Women who express strong needs to dominate others will be particularly prone to employ coercive maternal controls in their everyday child-socialization practices." Hypothesis I and II were clearly substantiated. Hypothesis III found limited substantiation; hypothesis IV, none. Implications of the findings were discussed. —Authors' Summary.

356. CROMWELL, RUE L., & FOSHEE, JAMES G. (George Peabody Coll., Nashville, Tenn.) *Studies in activity level: IV. Effects of visual stimulation during task performance in mental defectives.* Amer. J. ment. Def., 1960, 65, 248-251. 23 pairs of organic and familial Ss, matched for CA and MA, were raised to a stabilized level of performance on a card sorting task. They were then measured simultaneously for activity level and card-sorting performance, once under reduced and once under increased visual stimulation conditions. No differences in activity or performance were found as a function of amount of visual stimulation or organic-familial classification. No differences were found in performance as a function of sequence or stimulus conditions. However, a nonpredicted interaction was found in activity level as a function of organic-familial classification and sequence. Familials showed an increment in activity as time elapsed, while the organics showed a non-significant decrement in activity. —From Authors' Summary.

357. DAMBORSKÁ, M., & NEUBAUEROVÁ, H. *Pérezov reflex.* (Pérez reflex.) Česk. Pediat., 1960, 15, 333-338. The new reflex described in 1955 by Juanico and Pérez del Pulgar Marx and confirmed in 1958 by Vollmer was investigated in 50 infants aged two weeks, in 50 aged one month, in 50 aged two months, 50 aged three months, and 50 aged four months—all healthy mature infants with the exception of three premature ones. The authors discuss in what respects the reflex response in these infants correspond or differed from data described in the literature. —English Summary.

358. DAVIDON, ROBERT S., & LONGO, NICHOLAS. (Bryn Mawr Coll., Pa.) *Conceptual development reflected in age differences in associations to names and pictures of objects.* J. genet. Psychol., 1960, 96, 85-92. For bright Ss at three age levels free associations to names and pictures of common objects were obtained. Differences in the rate, heterogeneity, repetition, and type of associations were described and interpreted mainly in terms of conceptual development. Association times decreased with age. Free associations to pictures tended to be more rapid than those to spoken names of the corresponding objects, especially for the 10-year-olds. Heterogeneity of response was as great for the youngest as for the oldest Ss, and repetition did not decrease consistently with age. There was an increase in contiguity type response with age and a decrease in the number of functional or operational responses. As the superior child grows older there appears to be greater improvement in relating and verbally responding to names than to corresponding pictures. A beginning has been made in specifying and interpreting developmental trends in free association. —Authors' Summary.

359. DAVIDSON, KENNETH S., & SARASON, SEYMOUR B. (Yale Univer., New Haven, Conn.) *Test anxiety and classroom observations.* Child Develpm., 1961, 32, 199-210. Previous findings obtained with the Test Anxiety Scale for Children (TASC) prompted a study of the relationship between children's anxiety about school and various personality and behavior variables as observed and evaluated in the classroom. Two observers took notes in three second grade classrooms for several months before rating each child on a checklist of 25 personality and behavior variables and each teacher rated her pupils on the same checklist. Inter-observer and teacher-observer agreement in ratings was obtained along with correlations between ratings on the checklist and the children's scores on the TASC and the Defensiveness Scale for Children (DSC) obtained at the end of first grade. Also each teacher's expressions of affect and value judgments and her methods of handling children's emotional needs and expressions were evaluated on a five-point "favorable-unfavorable" scale. The results yielded a series of differences between boys and girls which

suggested that anxiety is ego-alien for boys and can be ego-syntonic for girls while the reverse may be true for the defensiveness measure. Significantly different results occurred in the three classrooms which seemed meaningfully related to reliably observed differences in teacher behavior. —Authors' Abstract.

360. DENNIS, WAYNE. (Brooklyn Coll., N.Y.) **Causes of retardation among institutional children: Iran.** *J. genet. Psychol.*, 1960, **96**, 47-59. This paper has presented data concerning behavioral development among 174 children, aged one year to four years, in three Iranian institutions. In Institutions I and II infant development was greatly retarded. The behavioral progress of children in the third institution was much less retarded. The interpretations offered for these differences in behavior among the children of different institutions are as follows: the extreme retardation in Institutions I and II was probably due to the paucity of handling, including the failure of attendants to place the children in the sitting position and the prone position. The absence of experience in these positions is believed to have retarded the children in regard to sitting alone and also in regard to the onset of locomotion. The lack of experience in the prone positions seems in most cases to have prevented children from learning to creep; instead of creeping, the majority of the children in Institutions I and II, prior to walking, locomoted by scooting. In Institution III, in which children were frequently handled, propped in the sitting position, and placed prone, motor development resembled that of most home-reared children. The retardation of subjects in Institutions I and II is believed to be due to the restriction of specific kinds of learning opportunities. This interpretation was found to be congruent with the results of other studies in environmental deprivation. In the light of these findings, the explanation of retardation as being due primarily to emotional factors is believed to be untenable. The data here reported also show that behavioral development cannot be fully accounted for in terms of the maturation hypothesis. The important contributions of experience to the development of infant behavior must be acknowledged. —Author's Summary.

361. DODWELL, P. C. (Queen's Univer., Kingston, Ont.) **Children's understanding of number and related concepts.** *Canad. J. Psychol.*, 1960, **14**, 191-205. An attempt to assess the generality of Piaget's findings in this area. Ss were 250 public school children aged 5 to 8. Modified forms of Piaget's test situations and techniques were used with one major change: all testing was standardized for all Ss. Findings generally follow Piaget's results, although not unequivocally: three stages of cognitive development were found; considerable variation of type of response occurred at all age levels; situational test differences were seen and age trends were apparent. Possible reasons for some of the differences found are discussed "and a strategy for further research suggested." —A. H. Blum.

362. DOEHRING, DONALD G., & ROSENSTEIN, JOSEPH. **Visual word recognition by deaf and hearing children.** *J. Speech Hearing Res.*, 1960, **3**, 320-326. Tests of accuracy of visual recognition of briefly exposed letters, trigrams, and four-letter words were administered to 40 deaf children and 40 hearing children ranging in age from 8 to 16. All subjects were given the Ammons Full-Range Picture Vocabulary Test. The young hearing children were significantly more accurate in letter trigram and word recognition than young deaf children, but older deaf children did not differ significantly from older hearing children. However, the Ammons reading scores of both young and older deaf children were significantly smaller than those of hearing peers. —M. F. Palmer.

363. DREGER, RALPH MASON, & SWEETLAND, ANDERS. (635 Ocean St., Jacksonville, Florida) **Traits of fatherhood as revealed by the factor-analysis of a parent attitude scale.** *J. genet. Psychol.*, 1960, **96**, 115-122. A parent-attitude scale was administered to 350 students and analyzed by the centroid method. Orthogonal rotation of axes resulted in four important factors: I. Ideal American Fatherhood; III. Ideal Religious (nonecclesiastical) Fatherhood; IV. Ecclesiastical Righteousness; and VII, Lovingkindness. Three other factors also appeared: II. Secular Non-Punitive; V. Church-Going Religiosity; and VI. Puritanism. —Authors' Summary.

364. DUFY, N. F. (Perth Tech. Coll., W. Australia) **Vocational choices of 13-14 year old males in relation to intelligence and reasons for job choice.** *Austral. J. Educ.*, 1960, 4, 38-56. Vocational choice data from a comprehensive questionnaire administered to 1,313 boys aged 13-14 attending metropolitan high schools were analyzed. Level of vocational aspiration was found to be "considerably above the likely level of attainment," with professional occupations and adventure-type occupations being overselected (in terms of ability of labor force to absorb and pupil intellectual level). "Intrinsic nature of the work" was found to be the chief reason for choice; "pay orientation" was important among those choosing unskilled jobs whereas security tended to be valued by those choosing professional and white collar jobs. Some implications for guidance are suggested. —R. Debus.

365. ESTES, BETSY WORTH. (Univer. of Kentucky, Lexington) **Judgment of size in relation to geometric shape.** *Child Developm.*, 1961, 32, 277-286. Subjects ranging in grade from kindergarten through college ($N = 105$) were presented with a standard series of figures, i.e., triangles, circles, and squares, and were asked to select from a variable series of the three shapes the figure which was most nearly equal in size to the standard. 45 of these judgments were similar-figure trials; 90 were different-figure trials. On the similar-figure trials (a) Ss were accurate in estimation of equality of size; (b) young children were as accurate as adults; (c) variability of group judgments decreased with increase in age; (d) variability of group judgments decreased with decrease in size of the standard presented. On the different-figure trials (a) the basis for judgments differed according to whether figures were in the standard or variable series; (b) cues used differed according to the shapes of the figures; (c) the same cues were used by all groups regardless of size of figures; (d) there were no age or sex differences; (e) in one-third of the comparisons, area was used in estimating equality of size. —Author's Abstract.

366. FEFFER, MELVIN H., & GOUREVITCH, VIVIAN. (Yeshiva Univer.) **Cognitive aspects of role-taking in children.** *J. Pers.*, 1960, 28, 383-396. From the developmental framework of Piaget, it was hypothesized that the structuring of the physical world and the ability to assume different social perspectives are cognitive activities which are related to each other and which reflect a development trend. Children of various chronological age were given a series of impersonal cognitive tasks developed by Piaget and his co-workers, and a projective role-taking task (RTT). Performance on both the Piaget tasks and the RTT was analyzed in terms of the concept of balanced decentering, viz., the ability to shift from one aspect of a situation to another in a flexible, balanced manner. As predicted, the two independent assessments of balanced decentering were (a) positively related to chronological age and (b) positively related to each other. Support was thereby inferred for the use of the decentering criteria as a basis for interpreting cognitive maturity from RTT performance. Certain implications of the results were considered with regard to the general adaptive process as well as to the more specific problem of social adaptation. —Authors' Summary.

367. FISHER, GARY M. (Pacific State Hosp., Pomona, Calif.) **Sexual identification in mentally retarded male children and adults.** *Amer. J. ment. Def.*, 1960, 65, 42-45. Relations of age and intelligence to characteristics of the Draw-a-Person Test are presented for 650 male children and adults. —J. W. Fleming.

368. GHENT, LILA. (George Washington Univer.) **Recognition by children of realistic figures presented in various orientations.** *Canad. J. Psychol.*, 1960, 14, 249-256. This study set out to investigate the general belief that recognition of a realistic figure "is markedly influenced by its orientation in adults, but not in young children," with specific reference in this experiment to the young child. 69 children between the ages of 3 and 7 were presented, tachistoscopically, four realistic pictures, each in four orientations: right-side-up, upside-down, rotated 90° to the right and rotated 90° to the left. S was to name or point to the identical picture which was in an array of 12 pictures constantly present on the screen. Young children were found to be dependent on familiar orientation for recognition while the older children did

not show such dependence. Younger children needed slower exposure-durations than did the older, the median being 100 msec. for the 3-year-olds and 5 msec. for the 6- to 7-year-olds. Results are discussed in relation to "apparent contradictions" with previous findings. A possible mechanism which would explain the obtained results in terms of familiarity and form perception learning in the young child is presented. —A. H. Blum.

369. GODA, SIDNEY. (Johnstone Training & Res. Center, Bordentown, N.J.) **Vocal utterances of young moderately and severely retarded nonspeaking children.** Amer. J. ment. Def., 1960, **65**, 269-273. Reactions to their sounds and the sounds of others are examined for eight nonspeaking, young moderately and severely retarded children. Five levels of speech development are described. Implications for speech training and prognosis are presented. —From Author's Summary.

370. GOLDSSTEIN, ROBERT. **Comparison of methods for evaluating electroencephalic responses to tones.** J. Speech Hearing Disorders, 1960, **25**, 303-305. Comparison of the Withrow-Goldstein method of EEG audiometry to the Derbyshire-Farley technique. The latter requires practically no previous experience in analysis and none of the frustration involved in making yes-no decisions. Consistency in judgment is the principal requirement. Analysis of the same records by both methods shows that estimations of threshold are equal when both methods can be successfully applied, but the Derbyshire-Farley method has been successful in some cases when the Withrow-Goldstein method cannot be applied. —M. F. Palmer.

371. GREENBAUM, MARVIN, & BUEHLER, JOHN A. (Univer. of Oregon Med. Sch., Portland) **Further findings on the intelligence of children with cerebral palsy.** Amer. J. ment. Def., 1960, **65**, 261-264. Data on intelligence are presented for 220 cerebral palsied children referred to a clinic over a two year period. The findings are organized in terms of diagnostic category, urban vs. rural environment, and premature vs. term births. 40% of the children were below IQ 70. —J. W. Fleming.

372. GRIFFITH, ANN H. (Edward R. Johnstone Training & Res. Center, Bordentown, N.J.) **The effects of retention interval, exposure-time and IQ on recognition in a mentally retarded group.** Amer. J. ment. Def., 1960, **64**, 1000-1003. The effects of exposure-time, retention interval, and intelligence on perceptual recognition of tachistoscopically presented stimuli were determined for male and female, institutionalized retardates ranging in age from 13 to 22 and in IQ from 40 to 79. Intelligence and exposure-time were both positively related to recognition. Retention interval appeared to have no effect. —J. W. Fleming.

373. HARATANI, T., MATSUYAMA, Y., & MINAMI, Y. **Study on stereotypes among Japanese students toward themselves and other national and ethnic groups.** Jap. J. educ. Psychol., 1960, **8**, 1-7. Three groups of Japanese students at middle-school, high school, and college level were sampled in a study of ethnic stereotypes and preferences. The authors report that they modeled their research after the procedure used by Katz and Braly. They found that, although the subjects attributed many unfavorable traits to themselves, they still indicated greatest preference for members of their own group. Koreans were assigned bottom rank. (From English Summary) —A. Grams.

374. HARTUP, WILLARD W., & ZOOK, ELSIE A. **Sex-role preferences in three- and four-year-old children.** J. consult. Psychol., 1960, **24**, 420-426. The It Scale for Children was administered to 161 3- and 4-year-old nursery school children. It was found that 4-year-old girls scored significantly more feminine than 3-year-old girls, and 4-year-old boys more masculine than 3-year-old boys. There was some evidence that the scale is sensitive to instructional set. —E. E. Levitt.

375. HARWOOD, E. (University of Queensland, Australia) **Social development in the Queensland adolescent.** Austral. J. Educ., 1959, **3**, 77-87. The development of values and social maturity in a sample of 1,493 adolescents aged 15 to 19, living

in S. E. Queensland were studied. A test of values (following the format of the Allport-Vernon test) was developed using Allport-Vernon categories of values with an added distinction between personal-social and social (philanthropic) values. Total mean scores for the sample, sex differences, and differences between school and employed adolescents are presented. Sex differences correspond generally with the pattern of American norms; social (philanthropic) value was significantly greater for girls and personal-social more characteristic of boys. Employed groups scored higher on economic and social (philanthropic values) while school groups were higher on theoretical and aesthetic values. A scale of social maturity (after the Vineland Scale) was developed and applied both to the main sample and a further sample of 637 subjects aged 10 to 14. Sex differences are presented; evidence suggested a temporary acceleration of acceptance of responsibility among earlier school leavers, but by 18 years, the school group had overtaken these. Data on reported sources of sex education for boys and girls are presented and some evidence is found that adolescents who regarded their sex knowledge as "satisfactory" tended to have higher social maturity scores. —R. Debus.

376. HEIST, PAUL (Univer. of California, Berkeley), **McCONNELL, T. R., MATSLER, FRANK, & WILLIAMS, PHOEBE**. **Personality and scholarship.** Science, 1961, **133**, 362-367. Two groups of National Merit Scholarship students were selected on the basis of attendance at educational institutions ranked high or low in the production of future scholars and scientists. Four hypotheses pertaining to expected personality differences between matched groups from both sources were explored by means of the following instruments: the Omnibus Personality Inventory, the Strong Vocational Interest Blank, and the Allport-Vernon-Lindzey Study of Values. In general, the hypotheses were firmly supported, and it was concluded that students of high ability attending highly productive institutions have a pattern of traits, values, and attitudes which is more closely related to serious intellectual pursuits than have students of high ability attending less productive institutions. —Authors' Summary.

377. HENRY, FRANKLIN M. **Influence of measurement error and intra-individual variation on the reliability of muscle strength and vertical jump tests.** Res. Quart. Amer. Ass. Hlth Phys. Educ. Rec., 1959, **30**, 155-159. In studying muscle strength and vertical jump tests, intra-individual variations were found to be much longer than measurement errors; thus they constituted the chief factor in the determination of test-retest reliability for these two performances. The method of computing test-retest reliability as the ratio of "true score" variance to total variance was found to underestimate the coefficient when the variability of test and retest scores differed by more than 15%. A formula for correcting this situation was presented. —H. H. Clarke.

378. HENRY, FRANKLIN M. **Reliability, measurement error, and intra-individual difference.** Res. Quart. Amer. Ass. Hlth phys. Educ. Rec., 1959, **30**, 21-24. It is shown that the conventional test-retest reliability coefficient is equal to the "true score" variance divided by the total variance. The former is inter-individual variance, and error of measurement. Using typical reaction and movement time data, it was found that the measurement error variance, using the hundredths second timer, was only 3 to 4% as large as the intra-individual variance and had little influence on the reliability coefficient. Measurement error is a characteristic of the test; it may or may not be large enough to reduce the reliability coefficient appreciably. Variations between and within individuals characterize behavior, which may or may not be reliable regardless of measurement error. —Author's Summary.

379. HOLLOWAY, HAROLD D. (Univer. of Tennessee, Knoxville) **Normative data on the children's manifest anxiety scale at the rural third grade level.** Child Devolpm., 1961, **32**, 129-134. The purpose of the study was to obtain normative data on the CMAS at the rural third grade level. The CMAS was administered orally by the teachers of 462 third grade rural children, who were equally divided with respect to sex and who ranged in age from 7.7 to 15.2 years with a mean of 8.9 years.

The Ss were drawn from 18 rural communities distributed throughout East, Middle, and West Tennessee. Data were analyzed in terms of frequency distributions, Stratum \times Sex analyses of variance, and correlations. The main results were: (1) The principal A and L scale frequency distributions were approximately bell shaped and unimodal. (2) The A scale means increased consistently from West to East Tennessee with a significant difference occurring between East and each of the other two strata. Sex differences and their interaction with strata were not significant. (3) The L scale mean for girls was significantly higher than for boys. Stratum differences and the stratum-sex interaction were not significant. (4) Pearson rs between the A and L scales were not significantly different from zero. —Author's Summary.

380. HOLTON, RUTH B. (State Univer. of Iowa, Iowa City) **Amplitude of an instrumental response following the cessation of reward.** Child Developm., 1961, 32, 107-116. Three groups of preschool children learned to push the correct one of two stimulus windows for a marble reinforcement. After a predetermined number of correct responses had been made, reinforcement was omitted for seven trials. After these nonreward trials, responses to the window which had been incorrect during training were rewarded until subject had obtained enough marbles to finish filling a marble board, entitling him to a toy reward. Mean force exerted on the four trials prior to the introduction of nonreward was compared with the mean force exerted on the four trials following the introduction of nonreward in order to determine the effect of reward failure upon increases in amplitude of response. Results showed that, with goal distance controlled, a group receiving a relatively high number of reinforcements prior to nonreward showed a significantly greater increase in amplitude following nonreinforcement than a group receiving fewer reinforcements. Furthermore, with number of reinforcements controlled, a group introduced to nonreward close to the completion of the marble board showed a significantly greater increase in amplitude than a group experiencing nonreward at a point farther removed from the goal. 44 of the total 45 Ss showed an increase in amplitude following the omission of reinforcement. It was suggested that the experimental variables subjected to manipulation in this investigation may have differentially influenced the degree of frustration resulting from the omission of a customary reward. —C. C. Spiker.

381. HOROWITZ, FRANCES DEGEN. (Southern Oregon Coll., Ashland) **Latency of sociometric choice among preschool children.** Child Developm., 1961, 32, 235-242. It was hypothesized that preschool Ss rated as maintaining weak best friends would exhibit a longer first choice latency in a sociometric task than Ss rated as maintaining strong best friends. For 12 younger and 24 older Ss, teachers indicated a best friend and three additional friends and rated each S on the strength of the best friend relationship. A modified picture sociometric was used to elicit a best friend choice and three additional friend choices. The results indicated that mean first choice latencies were significantly shorter for younger Ss rated as having strong best friends than for younger Ss rated as having weak best friends. Significant results in the opposite direction were obtained for older Ss. A measure of mean latency for all four choices yielded the same results. The results are discussed in terms of the factors which might account for differences supporting the hypothesis at the younger age level and also account for antithetical differences at the older age level. —Author's Abstract.

382. HOUSE, BETTY J., & ZEAMAN, DAVID. (Univer. of Connecticut, Storrs) **Visual discrimination learning and intelligence in defectives of low mental age.** Amer. J. ment. Def., 1960, 65, 51-58. All nonblind school children in a state institution with MA scores between 2 and 6 were selected for experimentation. 66 Ss contributed data on the acquisition of a two-choice discrimination of objects differing in color and form, and a subgroup of 34 Ss also learned a colorform pattern discrimination. Individual differences in the speed of acquisition of the two tasks were correlated .73, a finding interpreted as evidence for a construct "visual discrimination learning ability." MA and IQ were correlated -.55 and -.51, respectively, with an error measure of performance. An alternative interpretation of results holds that

individual differences in performance were those of attention rather than learning.
—From Authors' Summary.

383. IRWIN, ORVIS C. (Univer. of Wichita, Kansas) **Correct status of vowels in the speech of children with cerebral palsy.** *Cerebral Palsy Rev.*, 1960, 21(5), 6-7, 11-12. This study is concerned with the ability of children with cerebral palsy to articulate vowel sounds. The aims were to determine: (1) the effect of sex on vowel articulation, (2) the effect of chronological age, mental age and IQ, (3) the relation to the medical diagnosis, (4) the relation to the extent of paralytic involvement, (5) the relation to the degree of involvement, and (6) the effect of geographical regions. Four samples of children with cerebral palsy from 3 to 16 years were used in the analyses. They were from the Pacific Mountain and Midwest states. There were two samples from the Midwest. In the first Midwest sample it was found: (1) that the sex factor is negligible, (2) that the correlation of vowel scores with chronological age, mental age and IQ were too low for predictive purposes, (3) that correct scores significantly exceed substitutions and omissions, (4) that medial consonants significantly exceed initials, (5) that spastics significantly are superior to athetoids, and (6) that there are no significant differences in the mean scores of quadriplegics, hemiplegics and paraplegics. In the second part of the study three samples confirmed the mean value for correct scores found in part one. It supported the finding that the sex factor is negligible, and that medial vowels significantly exceed initials. It showed regional differences in the articulation of vowel sounds by children with cerebral palsy do not exist. —Author's Summary.

384. IRWIN, ORVIS C. (Univer. of Wichita, Kansas) **A short diphthong test for use with children with cerebral palsy.** *Cerebral Palsy Rev.*, 1960, 21(6), 9-10. The new test is constructed with 14 word items including 5 diphthongs in 3 positions in words; the diphthongs are (oU), (aU), (eI), (aI), and (OI). Application to 166 children with cerebral palsy showed the coefficients of reliability not to be very high: .53 for the initial position, .64 for the medials, and .51 for the finals. The difference between the mean scores of children rated very good and very poor in general language ability was statistically significant, showing the test to be fairly valid. Discriminating power and uniqueness of the items were found to be acceptable. —I. Altman.

385. JAMES, H. (Queen's Univer., Kingston, Ont.) **Imprinting with visual flicker: evidence for a critical period.** *Canad. J. Psychol.*, 1960, 14, 13-20. An experiment is described in which differences in the response of domestic chicks to an intermittent light source, and to an object which had previously been paired with this stimulus, were studied as a function of (a) their age when first exposed to the intermittent light and (b) the rate of intermittency. The main findings were: (1) The tendency to approach an intermittent light source is weaker in chicks which are exposed to such a stimulus for the first time when they are seven days old than in whose first exposure occurs within approximately 24 hours after hatching. (2) Chicks are more readily attracted by a high than a low rate of flicker, and are more likely to follow an object which has previously been associated with the higher rate of flicker. —Author's Summary.

386. JEFFREY, WENDELL E. (Univer. of Calif., Los Angeles) **Variables in early discrimination learning: III. Simultaneous vs. successive stimulus presentation.** *Child Developm.*, 1960, 32, 305-310. This experiment was devised to evaluate the effect of (a) the simultaneous and successive methods of presenting stimuli and (b) the type of response required in the successive discrimination on the acquisition of a difficult discrimination. Also, transfer among methods was assessed. Three groups of five-year-old children served as Ss. The simultaneous discrimination, involving pressing the button closer to the positive stimulus which appeared on the left or right, was easier than the successive discrimination when Ss were required to push a button to the left to the positive stimulus and on the right to the negative. There was not a significant difference, however, between the simultaneous and successive discriminations when Ss in the latter situation were required to push a single button when the positive stimulus was present and not to respond when the negative stim-

ulus was present. Transfer to the two-response successive discrimination was best after learning under the simultaneous condition. Only four of the nine Ss learned the discrimination when they were trained first under the successive condition with the left-right response. —Author's Summary.

387. JOHNSON, RONALD C., JOHNSON, CAROL, & MARTIN, LEA. (San Jose State College, Calif.) **Authoritarianism, occupation, and sex role differentiation of children.** Child Develpm., 1961, 32, 271-276. A college population of Ss was given the California F (authoritarianism) scale. Ss rated a number of children's behaviors in terms of their sex appropriateness. Measures of parental occupational level and type were used to form subgroups of Ss. No significant differences in F scores or in ratings of children's behaviors were obtained between Ss of differing parental occupational levels on the Minnesota Occupational Scale. When Ss were divided into entrepreneurial and bureaucratic groups, on the basis of parental occupations, significant differences did appear, with entrepreneurial Ss scoring higher on the F scale and rating significantly fewer behaviors as being appropriate to both boys and girls. When behavior ratings were divided within entrepreneurial and bureaucratic groups according to F scale score, F score was significantly related to the number of "appropriate to both boys and girls" behaviors. With F scores held constant, only slight differences appear between the ratings of entrepreneurial and bureaucratic groups. Certain implications of these findings were discussed. —Authors' Summary.

388. JORDAN, EVAN P. **Articulation test measures and listener ratings of articulation defectiveness.** J. Speech Hearing Res., 1960, 3, 303-319. 30-second samples of the connected speech of 150 children with mild to severe articulatory deviations were arranged in random order and were rated by 36 advanced undergraduate and graduate students majoring in speech pathology on a 9-point equal-appearing interval scale. Each child's articulation was also tested on the Templin-Darley 176-item Diagnostic Articulation Test. Multiple regression analysis of 22 measures of relationships indicated the following: (1) Articulation test responses provide valid information. (2) Listeners depend upon frequency and degree of articulatory deviation, omissions being more deviant than substitutions, and substitutions more deviant than distortions. (3) Measures of number of defective items and number of defective single sounds are highly related to measures of defectiveness of articulation derived from listener responses. —M. F. Palmer.

389. KAGAN, JEROME, & LEMKIN, JUDITH. (Fels Res. Inst., Yellow Springs, Ohio) **Form, color, and size in children's conceptual behavior.** Child Develpm., 1961, 32, 25-28. This paper describes an experiment on the conceptual preferences of children when they were asked to group geometric stimuli differing in form, color, or size in similar pairs. 35 girls and 34 boys (ages 3-9 and 8-6) were presented with nine stimuli in which a standard stimulus was presented simultaneously with other stimuli differing in form, color, and size. The child was asked to select the comparison stimulus which was the "same as" the standard. The result indicated that for both boys and girls form was distinctively preferred to color as a basis for similarity and color was preferred over size. For boys, there was no age difference in this response pattern. However, older girls were less likely than younger girls to use color as a basis for conceptualization. Older boys, moreover, were more likely to use color than were the older girls. These results agreed with a recent investigation in this area, and it was suggested that the sex difference was a function of the girls' implicit labeling of the forms as square, triangle, circle, which presumably facilitated the use of form as a basis for similarity. —Authors' Abstract.

390. KEISLAR, EVAN R. (Univer. of California, Los Angeles) **Experimental development of "like" and "dislike" of others among adolescent girls.** Child Develpm., 1961, 32, 59-66. The hypothesis of this study was that adolescent girls express a greater liking for a girl who has previously shown a liking for them than for a girl who has previously shown a disliking for them. 72 ninth-grade girls were tested, three at a time, in separate booths, to protect each one's identity from the others.

Since all information given each girl was in actuality controlled by E, all three girls were treated in exactly the same fashion as Ss. Each S first answered 26 two-choice preference items. For 23 out of the 26 items, she was told that one of the other two girls present liked her on the basis of the way she answered the item, but she was told that the other girl disliked her on 23 of these items. When the S now saw the answers purportedly given by each of the other two girls in turn, S gave a significantly greater number of "likes" to the "girl" who had liked her previously than to the girl who had disliked her previously. These results were interpreted as indicating verbal behavior which in the S's previous history has been conditioned to occur in the presence of approving and disapproving audiences. —Author's Abstract.

391. KESSEN, WILLIAM (Yale Univ., New Haven, Connecticut), HENDRY, LOUISE S., & LEUTZENDORFF, ANNE-MARIE. *Measurement of movement in the human newborn: a new technique*. Child Devlpm., 1961, 32, 95-105. A method of observing newborn movement and a technical procedure for the analysis of motion-picture records have been described. The application of the technique has produced interesting and suggestive findings about individual variation in movement, about day-to-day changes in movement, and about laterality. These findings support the use of the method in the further exploration of the behavior in newborns, particularly in the study of response to systematic changes in the external environment of the child. —Author's Summary.

392. KESSEN, WILLIAM, WILLIAMS, E. JANE, & WILLIAMS, JOANNA P. (Yale Univ., New Haven, Conn.) *Selection and test of response measures in the study of the human newborn*. Child Devlpm., 1961, 32, 7-24. An initial attack on the problems of newborn behavior was made in an examination of the reliability, individual stability, and relatedness of four response measures, movement, crying, mouthing, and hand-mouth contacting. Infants were seen repeatedly during the lying-in period. All measures showed very high intersubjective reliability. The measures for movement and hand-mouth contacting were sensitive to individual variation over the first five days of life; the measures for crying and mouthing were not. The movement measure showed systematic change over the lying-in period; for the other measures, neither a regular increase nor a regular decrease in occurrence was found, putting in some doubt the suggestion that mouthing and hand-mouth contacting are phenomena secondary to feeding. The relation of the findings to the problem of tension and tension-control in the newborn was discussed. —Authors' Abstract.

393. KLAUSMEIER, HERBERT J., CHECK, JOHN, & FELDHUSEN, JOHN. (Univer. of Wisconsin, Madison) *Relationships among physical, mental, achievement, and personality measures in children of low, average, and high intelligence at 125 months of age*. Amer. J. ment. Def., 1960, 65, 69-78. Physical, mental, achievement, and personality measures were secured on 40 children of low intelligence, 40 children of average intelligence, and 40 children of high intelligence at a mean age of 125 months as of October 15, 1958. Extensive correlational findings are presented. —From Author's Summary.

394. KUZUTANI, TAKAMASA. *Interracial preferences and their personality determinants*. Jap. J. educ. Psychol., 1960, 8, 8-17. Racial preferences of university students in 1954 are compared with the preferences of students in 1959. 106 male and 126 female students served as subjects. Information was obtained by questionnaire. Correlation between 1954 preferences and 1959 preferences was .87. Important changes are noted, however, in a negative direction toward the Chinese, Indians, and Koreans, and in a positive direction toward the Australians, Swiss, and Americans. Correlation between preference for and superiority ratings of national and racial groups was not as high (.76). (From English Summary) —A. Grams.

395. L'ABATE, LUCIANO. *Personality correlates of manifest anxiety in children*. J. consult. Psychol., 1960, 24, 342-348. No relations were found for a sample of elementary school boys between the Children's Manifest Anxiety Scale and the

Rogers' Test of Personality Adjustment and Rogers' Rating Scale of Adjustment. Significant relations were found between the CMAS and the Rogers' Test of Personality Adjustment for girls. The mean scores on the CMAS in this rural, North Carolina sample was similar to those of the Iowa City standardization sample, and different from a Chicago sample. —E. E. Levitt.

396. LACHMANN, FRANK M. **Perceptual-motor development in children retarded in reading ability.** *J. consult. Psychol.*, 1960, **24**, 427-431. The Bender-Gestalt was administered to matched groups of children who were retarded in reading ability, emotionally disturbed but normal readers, and normal children. The test results were scored for five types of distortion. It was found that the retarded readers had a significantly greater distortion than the normal children, and almost a significantly greater amount than the emotionally disturbed but normal readers. In general, the younger age groups showed more distortion than the older children. —E. E. Levitt.

397. LANSKY, LEONARD M. (Harvard Univer., Cambridge, Mass.), CRANDALL, VAUGHN J., KAGAN, JEROME, & BAKER, CHARLES T. **Sex differences in aggression and its correlates in middle-class adolescents.** *Child Developm.*, 1961, **32**, 45-58. This study concerned sex differences in relations between aggression, on the one hand, and achievement, dependence, independence, affiliation, sex anxiety, identification, and moral standards, on the other, in a sample of normal middle-class adolescents. The subjects were 54 children (32 boys and 22 girls) enrolled in the Fels Longitudinal Study. The data were obtained from ratings of individual interviews and scores on individual and group administered tests including a modified Rorschach, the Gough Brief Femininity Scale, the Franck Drawing Completion Test, the French Test, a story completion test, and a self-rating inventory. The major results were: (a) on individual variables, boys tended to score higher on aggression and independence-autonomy while girls scored higher on such variables as preoccupation with affiliation and anxiety about sexual activity; (b) there were more significant interrelations among aggression variables for the boys than the girls; (c) there were more significant relations for girls than for boys between aggression scores and measures of the other behavioral areas. Implications of the results were discussed with respect to different sex role demands and conflicts of middle-class adolescent boys and girls. —Authors' Abstract.

398. LEIMAN, ALAN H., MYERS, JEROME L., & MYERS, NANCY A. (Univer. of Massachusetts, Amherst) **Secondary reinforcement in a discrimination problem with children.** *Child Developm.*, 1961, **32**, 349-353. The present study investigated the role of a secondary reinforcer in a discrimination problem for children and showed that a secondary reinforcer can be established with children, as has already been seen in studies with adults. Three experimental groups was used. The secondary reinforcement group (S_r) received candy and buzz for correct responses during training and a buzz during extinction. This group made significantly more correct responses during the extinction than did either of two control groups. The first control group (C_1) received candy and a buzz for correct responses during training, but neither during extinction. The second control group (C_2) received candy during training and a buzz during extinction for correct responses. The number of correct responses during extinction for group C_2 was less than that of group S_r and slightly more than that of group C_1 . —Authors' Summary.

399. LIPMAN, RONALD S. (Edward R. Johnstone Training & Res. Center, Bordentown, N.J.) **Children's manifest anxiety in retardates and approximately equal M.A. normals.** *Amer. J. ment. Def.*, 1960, **64**, 1027-1028. Comparisons are made of manifest anxiety scores among retarded and nonretarded children. The implications of the findings for the results of learning studies comparing similar groups are considered. —J. W. Fleming.

400. LIPMAN, RONALD S., & GRIFFITH, BELVER C. (Johnstone Training & Res. Center, Bordentown, N.J.) **Effects of anxiety level on concept formation: a test**

of drive theory. Amer. J. ment. Def., 1960, 65, 342-348. Drive theory was tested by examining the relation between anxiety and concept formation. An adaptation of the Children's Manifest Anxiety Scale (CMAS) was administered to 115 institutionalized males and females, average age and IQ 16.6 and 62, respectively. In a concept formation task, Ss were required to report similarities within sets of words. A high negative correlation was found between CMAS and concept formation scores. Other findings are interpreted as support for drive theory, but the predicted facilitative effect when the correct response was dominant was not demonstrated. —J. W. Fleming.

401. LIPSITT, LEWIS P. (Brown Univer., Providence, R.I.) **Simultaneous and successive discrimination learning in children.** Child Develpm., 1961, 32, 337-347. The results of three discrimination learning studies of normal fourth grade children are reported. Comparisons of the methods of simultaneous and successive stimulus presentation are made under different levels of stimulus similarity and two types of response, either directly to the stimulus source or to a locus (buttons) removed from the stimulus source. The results of the three studies agree very well with the following propositions: (1) When response is directly to the stimulus source, simultaneous stimulus presentation tends to result in better learning than successive. (2) When the response is to a locus removed from the stimulus source, successive stimulus presentation may result in performance equal to or better than simultaneous. (3) The nature of the response involved in discrimination learning interacts with stimulus similarity, such that in procedures involving response to a locus removed from the stimulus source simultaneous may produce better learning than successive if the stimuli are very highly similar. It is concluded that the relative ease of simultaneous and successive discrimination learning in children is a joint function of stimulus similarity and the type of response required. It is suggested further that other manipulable conditions undoubtedly interact with the two dealt with here and that possibly stimulus generalization is the mechanism underlying the effects of each. —Author's Summary and Conclusions.

402. LIVSON, NORMAN, & BRONSON, WANDA. (Univer. of California, Berkeley) **An exploration of patterns of impulse control in early adolescence.** Child Develpm., 1961, 32, 75-88. The source data in this study are comprehensive clinical descriptions (prepared by E. H. Erikson) of 40 Guidance Study children (20 of each sex) aged 11 to 13 years which had been quantified by a Q-sorting procedure. From these data 32 of the most reliable and discriminating Q-sort items were intercorrelated and the resultant matrices cluster analyzed separately for boys and girls. Three clusters common to both sexes were derived (Ego Strength, Social Adjustment, and Emotional Expansiveness) and a number of individual items remained as residuals. Four impulse control groups were established for each sex on the basis of their pattern of ratings of overcontrol and undercontrol of impulses. One group, for example, is characterized by moderate undercontrol and extreme lack of overcontrol. These groups were compared on both cluster and residual item scores. From this analysis it was possible to ascribe tentative personality syndromes to each of the impulse control groups. Some evidence was offered indicating that physical maturation rate intervened in the relations between impulse control pattern and personality reorganization in early adolescence. —Authors' Abstract.

403. LOVAAS, O. IVAR. (Univer. of Washington, Seattle) **Effect of exposure to symbolic aggression on aggressive behavior.** Child Develpm., 1961, 32, 37-44. Three experiments were performed on the effect of exposure to symbolic aggression by means of motion pictures on the play behavior of children. A bar-pressing response which produced aggressive doll action was observed immediately after the children had been exposed to either an aggressive or a nonaggressive film. The study gave evidence for an increase in responding for the aggressive doll action after exposure to the aggressive film when such responding is properly observed. The data are analogous to findings concerning behavior for reinforcers based on the primary appetitive drives. The effects of this visual exposure to symbolic aggression can be

conceptualized either in terms of an increase in incentive motivation (K) or in terms of providing discriminative stimuli marking the occasion when aggressive behavior will be reinforced or at least not punished. —Author's Abstract.

404. LOVAAS, O. IVAR. (Univer. of Washington, Seattle) *Interaction between verbal and nonverbal behavior.* Child Develpm., 1961, 32, 329-336. A bar-pressing response reinforced by aggressive doll-action was observed immediately after children had undergone a verbal conditioning session during which one group of children was reinforced for emitting aggressive verbal responses, the other group was reinforced for nonaggressive verbal responses. The results of the study gave evidence for an increase in aggressive nonverbal behavior following reinforcement of aggressive verbal behavior. In other words, some control of nonverbal aggressive behavior was achieved by manipulating verbal aggressive behavior. In evaluating these results, four possibilities should be considered: (1) the verbal aggressive behavior becomes a discriminative stimulus which marks the occasion for the reinforcement of nonverbal aggressive behavior; (2) to the extent that the two response systems have reinforcing stimuli in common, operating upon one system might also change characteristics of responding for these stimuli by the other system (e.g., by sensitization of or satiation for the common reinforcer); (3) the verbal response functions as a discriminative stimulus for the nonverbal response; (4) occurrence of the verbal aggressive response allows for some extinction of the conditioned aversive stimuli associated with that response, the effect of this extinction generalizes to the nonverbal response and thereby reduces the amount of aversive stimuli inhibiting the nonverbal aggressive responding. —Author's Abstract.

405. McCORD, JOAN, & McCORD, WILLIAM (Stanford Univer., California) *Cultural stereotypes and the validity of interviews for research in child development.* Child Develpm., 1961, 32, 171-185. A comparison between two groups of similar families indicates probable biases of the interview as a technique in obtaining childrearing information. Information about one group was obtained through direct and frequent observation of behavior in the home and neighborhood; information about the other group was obtained through semistructured and unstructured interviews. Differences are interpreted as reflecting interview biases in the direction of cultural stereotypes. The interview group indicated less rejection between parents and child, greater parental role differentiation, stronger leadership by the father, less punitiveness by the father, and greater esteem for the father than was found by direct observation. Only minor differences were found between the interview and the observation groups in affectional relationship and conflict between the parents, in the father's esteem of the mother, in the mother's role in the family, and in her disciplinary techniques. —Authors' Abstract.

406. MCCULLERS, JOHN C. (Univer. of Texas, Austin), & STEVENSON, HAROLD W. *Effects of verbal reinforcement in a probability learning situation.* Psychol. Rep., 1960, 7, 439-445. Normal children in the CA ranges from 3-0 to 4-11 and 8-0 and 9-11 were tested in a three-choice probability learning situation. Two conditions differing in the percentage of physical reinforcement were used; in one condition all knobs yielded 33% reinforcement (marbles) and in the other all knobs yielded 66% reinforcement. One-half of the Ss (Group VR) at each age level and under each condition of physical reinforcement were also verbally reinforced on either the left, middle, or right stimulus knob with such expressions as "good," "fine," and the like. The other half of the Ss received no verbal reinforcement and therefore served as a control group (Group NVR). Results confirmed predictions that older children would prove more variable in their behavior in the task, that verbal reinforcement would prove to have a significant effect on behavior, and that verbal reinforcement would influence the performance of younger Ss more than older Ss. Performance of older children was found not to be affected by verbal reinforcement. Inasmuch as the percentage of physical reinforcement proved not to be a significant experimental variable, predictions concerning the effects of different levels of physical reinforcement were not supported. —Authors' Summary.

407. McREYNOLDS, PAUL (Veterans Admin. Hosp., Palo Alto, Calif.), ACKER, MARY, & PIETILA, CARYL. **Relation of object curiosity to psychological adjustment in children.** Child Develpm., 1961, 32, 393-400. Purpose of this study was to determine whether exploratory behavior (curiosity) is affected by level of anxiety in children. Ss were 30 sixth-grade children. The measure of anxiety was based on several teacher ratings, and the measure of exploratory behavior was obtained through an experimental procedure in which the children were presented with the opportunity for spontaneous exploration of about two dozen objects, such as a miniature camera, a small stapler, a toy motorcycle, and so on. Findings were as predicted, i.e., the correlation between exploratory behavior and level of anxiety was significantly negative, indicating that anxiety inhibited curiosity. —Authors' Abstract.

408. MAHER, BRENDAN A. (Louisiana State Univer., Baton Rouge) **Position errors and primitive thinking in the Progressive Matrices Test.** Amer. J. ment. Def., 1960, 64, 1016-1020. Two groups of subjects, college students and mentally retarded children, were tested with the Raven's Progressive Matrices Test (1938). The frequency with which errors occurred in particular positions for both groups was computed for Sets A and B of the test series. The data do not support the hypothesis that differences in intelligence lead to differential position preferences. —From Author's Summary.

409. MALPASS, LESLIE F. (Southern Ill. Univer., Carbondale) **Motor proficiency in institutionalized and non-institutionalized retarded children and normal children.** Amer. J. ment. Def., 1960, 64, 1012-1015. 52 institutionalized retardates, 56 noninstitutionalized retardates, and 71 nonretarded children were each administered the Oseretsky Motor Development Scale. The average age of each group was about 11. The retarded group did not differ in proficiency, but did obtain significantly lower scores than normals. With age held constant, intelligence measures correlated significantly with motor proficiency for each of the two retardate groups (using WISC scores), but not for normals (using California Test of Mental Maturity scores). —J. W. Fleming.

410. MARTIN, WILLIAM E. (Purdue Univer., Lafayette, Ind.), & BLUM, ABRAHAM. **Effects of irrelevant cues on inter-test generalization in discrimination learning of normal children.** Psychol. Rep., 1960, 7, 399-404. This study attempted to determine (a) age changes in effects of irrelevant cues on inter-test generalization and (b) relation of performance to sex of child and to nature of discriminandum. Ss were 141 normal, middle-class children, 80 boys, 61 girls, subdivided by year-of-age into eight groups from 3 through 10 years. The task was choosing the odd one of three objects, with oddity defined in terms of size, color, form, or spatial orientation. Two training series, utilizing size discrimination, were followed by four pairs of tests, one pair for each of the four discriminanda. An analysis of the number of correct responses on Trial I of the eight tests served to demonstrate (a) an improvement with age in performance similar to that noted in developmental studies of transposition, (b) a significant sex difference in performance in favor of boys, and (c) a significant sex-age interaction in sensitivity to stimulus cues. The results were seen as lending support to investigations of learning which emphasize stimulus rather than reinforcement variables. The sex differences were not explicable with respect either to the data of this study or to results of investigations of stimulus preferences in children's conceptual behavior. —Authors' Summary.

411. MAW, WALLACE H. (Univer. of Delaware, Newark), & MAW, ETHEL W. **Establishing criterion groups for evaluating measures of curiosity.** J. exp. Educ., 1961, 29, 299-306. The purpose of the investigation was to establish criterion groups of elementary school children for evaluating measures of curiosity. Teacher-judgment, peer-judgment, and self-judgment of curiosity of children in five fifth-grade classes were obtained after the classes had been working together for six months. The judgments of teachers and peers were not significantly affected by race, sex, or popularity, but were significantly related to intelligence. With statistical control of intelligence, high- and low-curiosity groups were selected on the basis of teacher- and peer-judg-

ment. On a self-appraisal of curiosity the children of the high-curiosity group rated themselves significantly higher in curiosity than did the children of the low-curiosity group. The final criterion groups consisted of 15 children of high curiosity and 20 of low curiosity. —Authors' Abstract.

412. MAW, WALLACE H. (Univer. of Delaware, Newark), & MAW, ETHEL W. Nonhomeostatic experiences stimuli of children with high curiosity. *Calif. J. educ. Res.*, 1961, 12, 57-61. It was hypothesized that children of high curiosity select experiences related to an unbalanced and/or unfamiliar environment more frequently than do children of low curiosity. Two groups of fifth-grade children, one showing high curiosity and the other low, were selected by the combined judgments of teachers and peers. The two groups differed significantly in self-judgment of curiosity. A non-verbal test consisting of pairs of geometric figures and symbols was constructed to measure the extent to which children select the unbalanced and unfamiliar in preference to the balanced and familiar. When the scores of the high- and low-curiosity groups were compared, it was found that the children of the high-curiosity groups had chosen the unbalanced and unfamiliar significantly more often than had the children of the low-curiosity group. —Authors' Abstract.

413. MAW, WALLACE H. (Univer. of Delaware, Newark), & MAW, ETHEL W. The relationship between curiosity and scores on a test of general information. *J. Res. Growth Relationships*, 1960, 27-33. A 41-item test of general information was developed by selecting topics from three sets of encyclopedias commonly used in elementary schools. An item was included in the test only if it appeared in all three sets. The test was administered to two groups of fifth-grade children who had been judged by themselves, their teachers, and their peers in terms of their curiosity. The judgments were not affected by age, sex, popularity, or race. Intelligence was controlled statistically. 15 pupils were judged to be high in curiosity; 20 were judged to be low. The scores of the more curious were on the average higher than the scores of the less curious. The difference between the groups was significant at the .05 level. —Authors' Abstract.

414. MEYER, WILLIAM J. (Univer. of Pittsburgh, Pennsylvania), & SEIDMAN, STANLEY B. Relative effectiveness of different reinforcement combinations on concept learning of children at two developmental levels. *Child Developm.*, 1961, 32, 117-127. In a previous experiment involving four reinforcement combinations (Right-Wrong, Right-Nothing, Nothing-Wrong, and Buzzer-Nothing) and two developmental levels (four- and five-year-olds and eight- and nine-year-olds), a significant age \times treatments interaction was reported. Since multiple comparisons tests failed to yield significant results, it was decided to replicate the study using those treatments which seemed to contribute most to the interaction terms (RW, NW, BN). Two separate experiments were conducted using age groups and procedures identical to the original study. Comparison of the RW-NW combinations and the NW-BN combinations constituted the first and second experiments, respectively. The results of the experiments failed to replicate the age \times treatment interaction. No difference was found between the RW-NW treatments though the NW group was reliably superior to the BN group. The extinction data replicated in entirety. Reasons for the lack of agreement for the acquisition results were examined. On the basis of the two studies the conclusion was reached that wrong is a stronger reinforcer than right and that this difference appears as early as five years of age. It was also concluded that regardless of developmental level nothing when paired with wrong acquires positive reinforcement value and serves to maintain performance at a pre-extinction rate. When nothing is paired with right, it acquires negative reinforcement value and serves to extinguish behavior. —Authors' Summary.

415. MOLL, KENNETH L., & DARLEY, FREDERIC L. Attitudes of mothers of articulatory-impaired and speech-retarded children. *J. Speech Hearing Disorders*, 1960, 25, 377-384. The Parental Attitude Research Instrument and Wiley's Attitudes Toward the Behavior of Children were administered to three groups of mothers of children 3 to 12 years of age: 26 mothers of children with functional articulatory

problems, 30 mothers of children with delayed speech, 60 mothers of children with no speech problems. There were no significant differences on the ATBC scales and on only three of the PARI scales. Mothers of speech-retarded children seemed to offer the children less encouragement to talk. Mothers of articulatory-impaired children have higher standards and are more critical than are mothers of nonspeech impaired children. Clinical usefulness of the instruments appears limited. —M. F. Palmer.

416. MORI, SHIGETOSHI. *Basic study on the characteristics of intellectually gifted children. I: General developmental characteristics.* Jap. J. educ. Psychol., 1959, 7, 131-141. A group of 25 children in an elementary school in Tokyo with a WISC (Japanese edition) IQ of over 130 were compared on a number of measures with 25 children of "normal" intelligence. Information was gathered through questionnaires given to the children and through interviews with parents and teachers. The gifted group was significantly superior on the following characteristics: motor skill in aiming, weight at birth, age of beginning to read and write, and interest in special lessons outside of school. No difference between the groups was found with respect to other measures of physical development, interest in reading and amount read, amount of time spent in studying at home, preference among school subjects, and school attendance. (From English Summary) —A. Grams.

417. MORRIS, HUGHLETT L., SPRIESTERSBACH, D. C., & DARLEY, FREDERIC L. *An articulation test for assessing competency of velopharyngeal closure.* J. Speech Hearing Res., 1961, 4, 48-55. The Templin-Darley Diagnostic Test of Articulation was administered to 50 children with cleft palates, split into equivalent groups with adequate and inadequate velopharyngeal closure. On the basis of obtained group differences, a 43-item Iowa Pressure Articulation Test was constructed. Fricatives, plosives, and affricates are the best discriminators between speakers with adequate and inadequate closure. Position has no differential discriminatory effect. Cleft palate speakers with adequate closure give essentially similar performance on consonantal singles, two-element items, and three-element items, while those with inadequate closure have increasingly greater difficulty. —M. F. Palmer.

418. MOSER, HENRY M., O'NEILL, JOHN J., OYER, HERBERT J., ABERNATHY, EDWARD R., & SHOWE, BEN M., Jr. *Distance and fingerspelling.* J. Speech Hearing Res., 1961, 4, 61-71. Nonmeaningful alphabet triplets were presented in fingerspelling to 24 deaf students under conditions of artificial and natural lighting by 2 senders familiar with the alphabet and known by the subjects. At 125 feet, average intelligibility was 87.6%. At 250 feet, the 5 best readers were able to recognize better than 50%. Intelligibility of alphabet letters was sufficiently high up to 175 feet. —M. F. Palmer.

419. MOSS, JAMES W., MOSS, MARGARET, & TIZARD, JACK. *Electrodermal response audiometry with mentally defective children.* J. Speech Hearing Res., 1961, 4, 41-47. 24 institutionalized mentally defective subjects ranging in age from 5 years, 4 months to 15 years, 2 months and a median IQ of 37 were studied once with a mild electric skin stimulus and once with a bright light as unconditioned stimulus. The EDR records were rated good, fair, or poor. Only 13 of the total 48 records were rated as good or fair. EDR audiometry with mentally defective children is of limited utility. —M. F. Palmer.

420. NEWTON, GRANT (Univer. of Rochester), & HEIMSTRA, NORMAN. *Effects of early experience on the response to whole-body X-irradiation.* Canad. J. Psychol., 1960, 14, 111-118. 64 weanling rats formed four groups of 16 animals each. The sexes were equally distributed. One group (H) received early handling; a second group (T) early cold stress (5° C.); a control group (XC) received radiation only. Group C served as a nonirradiated control. At 45 days of age animals of Groups H, T, and XC were subjected to 650 r. of whole-body X-radiation. Results indicated that: (1) no significant differences in weight gain occurred between groups prior to irradiation, though males of Groups H and T were numerically lighter than controls. (2) Following irradiation, Group XC males lost significantly more weight

than did either of the experimental groups. (3) Significant differences existed between pre- and postirradiation, open-field, activity scores for all but Group C, and handled males. (4) Mortality rates between groups were closely comparable. (5) Preirradiation, aureomycin treatment apparently eliminated early deaths associated with gastrointestinal damage. —Authors' Summary.

421. OGDON, DONALD P. **WISC IQs for the mentally retarded.** *J. consult. Psychol.*, 1960, **24**, 187-188. IQ values of scaled scores from 1 to 25 for WISC are provided by means of extrapolation from Wechsler's Manual. —E. E. Levitt.

422. O'NEILL, JOHN J., OYER, HERBERT J., & HILLIS, JAMES W. **Audio-metric procedures used with children.** *J. Speech Hearing Disorders*, 1961, **26**, 61-66. 58 children with a mean age of 68.05 months were administered a variety of audiometric techniques, including electrodermal audiometry and several forms of play audiometry, and classified into Group 1, children not easily tested, and Group 2, children with conclusive testing. In Group 2, 23 ears had some hearing loss, and 6 needed therapy. 4 children in Group I showed definite indications of loss, and 5 made consistent responses to gross sounds, but could not be conditioned to respond to pure tones presented by earphones. Each of these showed definite indications of brain damage. —M. F. Palmer.

423. ORLANDO, ROBERT (Univer. of Washington, Seattle), BIJOU, SIDNEY W., TYLER, RUSSELL M., & MARSHALL, DAVID A. **A laboratory for the experimental analysis of developmentally retarded children.** *Psychol. Rep.*, 1960, **7**, 261-267. A laboratory for the experimental analysis of developmentally retarded children has been described. The experimental situations are modifications of free-operant and Wisconsin General Test Apparatus methods originally developed for infrahuman Ss. In addition to the physical layout and features of the laboratory, operational routines, special considerations in laboratory research in an institutional setting, and unique characteristics of the retarded population are discussed to illustrate the laboratory approach for research with developmentally retarded children. —Authors' Summary.

424. OSBORN, WILLIAM J. (Ladd School, Exeter, R.I.) **Associative clustering in organic and familial retardates.** *Amer. J. ment. Def.*, 1960, **65**, 351-357. Familial, organic, and control Ss were matched for MA and compared with respect to their functioning on the associate clustering task. No significant differences were found between organics and familiars on this task, and both retardate groups recalled pictures and organized them conceptually as adequately as did the control group. There were qualitative differences, however, in the manner in which the retardates developed their total scores, suggesting inefficiencies in functioning which may be related to inappropriate learning habits. —From Author's Summary.

425. PALERMO, DAVID S. (Univer. of Minnesota) **Relation between anxiety and two measures of speed in a reaction time task.** *Child Devolpm.*, 1961, **32**, 401-408. The present study was concerned with starting speed and movement speed in a reaction time task as related to scores on the CMAS. A total of 113 sixth grade Ss, previously given the CMAS, were given 40 trials in a simple reaction time task. They were required to start with their finger on a microswitch and, upon presentation of a light, press another button. Time was measured from onset of light to release of microswitch and from release of microswitch to pressing the button. Boys were significantly faster than girls, and there were significant increases in speed over trials on both measures; however, there were no significant differences attributable to anxiety on either measure. A low but significant correlation was found between the mean RT and MT speed scores for the total group. Correlations between the two measures over trials for individual subjects were distributed over a wide range. The correlations between the two measures for each trial showed no consistent trends over trials. The results were discussed in terms of the sensitivity of the speed measures to competing responses and the advisability of using both RT and MT measures in future studies. —Author's Abstract.

426. PENNY, RONALD K. (McMaster Univer., Hamilton, Ont.) **The effects of nonreinforcement on response strength as a function of number of previous reinforcements.** *Canad. J. Psychol.*, 1960, 14, 206-215. 88 kindergarten children were divided into a Hi and Lo-Habit group, each group having a control and experimental subgroup. All Ss were trained to manipulate a lever, receive a reward, manipulate a second lever, and receive a reward. The Hi-Habit group then received 10 training trials in manipulating the first lever, while the Lo-Habit group only performed this task once. All Ss then repeated the lever one-lever two sequence twice. In testing, all groups followed the established sequence except that each of the experimental subgroups received only partial reinforcement (12 out of 18 test trials) after pushing lever one. All lever two manipulations were rewarded for all Ss. "The Hi-Habit experimental group showed reliable faster mean movement speeds over the nonreinforced trials relative to the reinforced trials when the differences in mean movement speeds were compared for all groups. In addition, the mean movement speeds of the Hi-Habit experimental and control groups were compared over the nonreinforced trials and corresponding trials. The experimental group was found to perform significantly faster over the first and last three nonreinforced trials. The Lo-Habit groups did not show any nonreinforcement effect over the test series." Results are discussed in relation to Amsel's frustration interpretation. —A. H. Blum.

427. POULIOT, SAMUEL, & MISIAK, HENRYK. (Fordham Univer., New York City) **The measurement of negative after-images in first-grade boys and girls.** *J. genet. Psychol.*, 1959, 95, 13-17. The procedure for measuring latency, duration, and reappearances of after-images of young children was developed. It was tested on 40 American-born white six-year-old school children of both sexes and was found successful and capable of giving reliable results. In the experiment no significant differences were found between boys and girls with respect to latency, duration, and number of reappearances. However, the girls had consistently lower scores and less group variability than the boys. The green after-image was of longest duration for the girls, whereas for the boys the red after-image had the longest duration. —Authors' Summary.

428. PRYER, RONALD S. (State Colony & Training Sch., Pineville, La.) **Retroactive inhibition in normals and defectives as a function of temporal position of the interpolated task.** *Amer. J. ment. Def.*, 1960, 64, 1004-1011. 75 males and female high school students (mean CA 16) and 75 male and female retardates (mean CA 22) were trained to anticipate a list of 10 familiar nouns to a criterion of one errorless trial. Introduction of an interpolated task (IT) produced a decrement in retention for all treatment groups, but not differentially for varying temporal positions of IT within a two hour period after original learning. Differences in amount of retroactive inhibition (RI) between normals and retardates were partially a function of an acquisition variable rather than RI per se. Verbal learning ability was found to be highly related to intelligence. —J. W. Fleming.

429. REESE, HAYNE W. (Univer. of Buffalo, N.Y.) **Level of stimulus pretraining and paired-associate learning.** *Child Develpm.*, 1961, 32, 89-93. 90 fourth and fifth grade children learned nonsense-syllable names for two stimuli in task I. Group L learned the associations to a low criterion; group M, to an intermediate criterion; and group H, to a high criterion. In task II, subjects learned to associate button-pushing responses with these stimuli and two others. In task II, performance on the experimental stimuli (the stimuli used in both tasks) was superior to that on the control stimuli (used only in task II), but the difference was significant only in the first third of the task, indicating that the effect of acquired distinctiveness was greater than the performance set effect early in task II, but the difference decreased as the learning curves approached asymptote. The difference between performance on the experimental and control stimuli did not vary significantly with increasing levels of pretraining, indicating that a small amount of pretraining (about six trials in the present study) produced as much acquired distinctiveness as larger amounts of pretraining. The rapidity of the development of acquired distinctiveness has not been explained. —Author's Abstract.

430. REESE, HAYNE W. (Univer. of Buffalo, N.Y.) **Transposition in the intermediate-size problem by preschool children.** Child Develpm., 1961, **32**, 311-314. Preschool children were divided into a Concept group and a No-Concept group on the basis of a pretest in which they were required to name the middle-sized of three stimuli differing in area. At least 10 days after the pretest, they learned to choose the middle-sized of three other stimuli and were then given test trials in which the stimuli were one step (Near test), two steps (Middle test), and three steps (Far test) removed from the training stimuli. There was no significant difference between the Concept and No-Concept groups in trials to criterion in the training phase and no significant difference in performance on test trials. Distance effects were obtained, with significantly more transposition and fewer responses to the largest stimulus on the Near test than on the Middle and Far tests, which did not differ significantly from each other. The distance effects did not interact significantly with the concept variable. The data support the theory that the probability of transposition is an inverse function of the discriminability of the training and test sets of stimuli and suggests that, when Ss make the discrimination, they respond on the basis of absolute size. —Author's Summary.

431. ROSENBERG, B. G., & SUTTON-SMITH, B. (Bowling Green State Univer., Ohio) **A revised conception of masculine-feminine differences in play activities.** J. genet. Psychol., 1960, **96**, 165-170. The present investigation sought to compare male and female differences in game play activities. A check list yielded 18 items differentiating boys from girls and 40 items differentiating girls from boys. Contrasts with traditional conceptions and Terman's 1926 investigation indicated that girls now evidence greater interest in male activities than was formerly the case. This article, therefore, presents further evidence consistent with theories which emphasize the increasing masculinity of the feminine self-concept. —Authors' Summary.

432. ROSENBLITH, JUDY F. (Brown Univer., Providence, R.I.) **Imitative color choices in kindergarten children.** Child Develpm., 1961, **32**, 211-223. This study was carried out in order to test the hypothesis that matched-dependent imitation would respond to a particular set of experimental manipulations in the same way that learning by imitation or copying did. The experimental manipulations involved the sex of the adult leader to be imitated, the sex of the leader in relation to that of the child, and the way in which the leader treated the child in the 10-minute period preceding the imitation session (attentive throughout vs. withdrawing attention for half of the period.) The matched-dependent behavior under study involved color matching. A child could match the color of pencil used by an adult to do the Porteus mazes. There was a pretest session in which the child's color preferences were established in addition to his level of performance on the mazes. There was then an experimental (or copying) session in which the child observed an adult before trying the task. A datum which could be observed by the child (other than the way in which the adult performed on the maze) was the color of pencil which the adult used in doing the maze. In the experimental sessions the actual work on the mazes was preceded by a 10-minute period in which the adult behaved in one of two ways: attentively throughout, or attentively for half the time followed by withdrawal of attention for the remaining half of the time. The data showed a number of trends in the direction of supporting the above hypothesis, and some contradictory to it. Supplementary evidence showed that attention vs. withdrawal of attention makes a difference in the amount of influence a leader has in changing the child's behavior. There were a number of interesting differences between the two types of imitation that need to be explored further. —Author's Summary.

433. SATO, CHIYOKO. (Tokyo Municipal Komei Sch. for Physically Handicapped) **Musical aptitude of cerebral palsied children.** Cerebral Palsy Rev., 1960, **21**(6), 3-8. To find out why cerebral palsied children differ from other children in musical aptitude, the characteristics of 107 such children were examined. Wide variation in ability was noted, pointing up the difficulties created by accommodating all these children in the same classroom. Musical aptitude was found to be highly cor-

related with intelligence. Generally, the children showed poor ability in identifying the pitch of sounds but showed good discerning power with respect to loudness. Children of low intelligence showed a poor sense of rhythm. —I. Altman.

434. SATO, CHIYOKO. (Tokyo Municipal Komei Sch. for Physically Handicapped) *Survey on vocal pitch range of cerebral palsied children*. Cerebral Palsy Rev., 1960, 21(5), 4-5, 8-9. An attempt was made over a 3-year period to teach pitch range to 134 handicapped children, including 103 with cerebral palsy. Vocal range was found to be extremely limited when compared with the range for normal children. Over half the children had only half the normal vocal range; a fourth could phonate only in the range from the prime to the fifth interval; only 9% of the 103 cerebral palsied children could cover two octaves or more. Three years of effort showed little result. Research is needed into appropriate teaching materials and correct methods of teaching. —I. Altman.

435. SCHAEFER, EARL S. (Natl Inst. Mental Hlth, Bethesda, Md.), BELL, RICHARD Q., & BAYLEY, NANCY. *Development of a maternal behavior research instrument*. J. genet. Psychol., 1959, 95, 83-104. A brief discussion of the process of concept development and of a method for developing measures of concepts has been presented. Measures for a set of concepts which are relevant to an interpersonal theory of personality development were developed. The concepts, many of which are commonly used in clinical studies in child guidance clinics, are exactly defined by specifying the behaviors which they include. The utility of this method of quantifying both observations and interviews was demonstrated by the relatively high interjudge reliabilities of ratings. Evidence of the construct validity of these scales has been presented elsewhere. We present them as promising tools, with the hope that they will be tested further. The two sets of rating scales could be used as they are reported here. Since they were developed for a particular set of data, other investigators must judge whether they could be used successfully on other data in their present form. However, new scales can be developed, or the present scales can be adapted, with the method which has been described. —Authors' Summary and Conclusions.

436. SEROT, NAOMI M. (4884 MacArthur Blvd., Washington, D.C.), & TEE-VAN, RICHARD C. *Perception of the parent-child relationship and its relation to child adjustment*. Child Develpm., 1961, 32, 373-378. A review of the research performed within the area of parent-child relationships and child adjustment led to the formulation of three hypotheses: (a) a child's adjustment is related to his perception of his relationship with his family; (b) the child's perception of the relationship is unrelated to his parents' perception of the same; and (c) the parents' perception of the relationship is unrelated to his offspring's adjustment. The method used to test these hypotheses was described: The California Test of Personality was administered to 88 children as a measure of adjustment and the Swanson Child-Parent Relationship Scale as a measure of the child's perception of the relationship. The CPRS was reworded to make it suitable for adults and then sent to the mothers and fathers of the children. 36 mothers and 31 fathers participated. The statistical results obtained significantly support all three hypotheses. The suggestion is offered that, in studies of the dynamics of child psychology, more attention be given to the course of development of children's perception of their familial environment and to the factors that allow parental perception of the same environment to be so very different. —Authors' Abstract.

437. SEYMOUR, RICHARD B. (Long Beach, Calif.) *Missing data in nonlinear trend analysis of repeated measurements on the same individuals*. J. educ. Res., 1960, 54, 141-144. Formulas for missing data to permit use of conventional computational methods are derived and discussed for analysis of repeated measurements on the same individuals (including objects). The formulas are for use with the orthogonal polynomial analysis of trends, an extension of Alexander's method due to Grant. Formulas are presented for the case of one missing datum in Grant's and Alexander's methods and for all cases of two missing data in Grant's method, minimizing the error term, between individual trends, in the latter method. The formulas are

applicable by extension and without modification to certain cases where more than two observations are missing. An example is presented. —Author's Summary.

438. SHAFFER, GERTRUDE K. **Variables affecting Kraus-Weber failures among junior high school girls.** Res. Quart. Amer. Ass. Hlth phys. Educ. Rec., 1959, **30**, 75-86. The Kraus-Weber Test of Minimum Muscular Fitness was administered four times over a period of 15 months to 1400 girls in two junior high schools with different physical education programs. IQs (Otis) and physical type categories (1952 Bird T. Baldwin Measuring Scale) were also obtained. The results were: trend lines showed that, as intelligence increased, Kraus-Weber failures decreased; as the age level of subjects increased, the percentage of Kraus-Weber failures also increased and the amount of improvement made decreased; weight influenced failure to a greater degree than height; in trunk flexibility, the tall-overweight girls failed less frequently than the others before conditioning, while the average-underweight, short-overweight, and short underweight failed most often after conditioning; in strength, the tall-overweight and the average-overweight had highest failure percentage before conditioning; while, after conditioning, the short-underweight had the greatest. A physical education program based entirely on learning and playing games did not produce an appreciable decrease in Kraus-Weber failures, but participation in conditioning exercises reduced the failure rate drastically, equal to Kraus' figure for European children (8.7%) —H. H. Clarke.

439. SMITH, DONALD C. (Ohio State Univer., Columbus), & WING, LUCY. **Developmental changes in preference for goals difficult to attain.** Child Devlpmt., 1961, **32**, 29-36. The major questions were: Is preference for difficult goals positively associated with increasing age? Are preferences for difficult goals affected by the sex of the experimenter and the nature of the task confronting the child? Boys at grades 2, 4, 6, and 8 were closely equated in intelligence and socioeconomic status and randomly assigned to a male and female experimenter. Each subject was confronted with four different tasks in which he was asked to make a choice between a goal difficult or easy to attain. The percentage of boys choosing difficult goals increased from grade 2 to grade 4 but decreased at grades 6 and 8. No significant differences were found between subjects assigned to the male and female experimenter. The nature of the task had a significant effect on choice of more difficult goals. It was concluded that preference for more difficult goals is not a simple generalized trait which increases proportionally with age. Several factors may be related to choice in the experimental situation: the intrinsic value of the goal object, the strength of the barrier to success, the motivating conditions, the particular sequence of activity, and the manner by which choice is expressed by the subject. —Authors' Abstract.

440. SOMMERS, RONALD K., MEYER, WILLIAM J., & FENTON, ANN K. **Pitch discrimination and articulation.** J. Speech Hearing Res., 1961, **4**, 56-60. 65 school children having articulation errors on either (r) or (s) were matched with a comparable group of normally-speaking subjects on the basis of IQ, sex, and grade. The pitch subtest of the Tilson-Gretsch Music Test was administered to each subject following standard procedures. Those with errors were found to be poorer in mean pitch discrimination than normals. No differences were found between the (r) group and the (s) group. The matching variables of IQ, sex, and grade were found to be ineffective in increasing the precision of the experimental design. —M. F. Palmer.

441. STEER, M. D., & DREXLER, HAZEL G. **Predicting later articulation ability from kindergarten tests.** J. Speech Hearing Disorders, 1960, **25**, 391-397. Tests of intelligence, social maturity, and articulatory ability were administered to 93 kindergarten children. 54 of these subjects participated in a 12-week speech improvement program, at the conclusion of which articulation tests were again administered. Five years later the articulation ability of the same children was retested. Certain variables measured at kindergarten level have predictive value. These are the total number of errors in all positions within words, errors in final position, errors of omission in final position, and errors on the (f) and (l) consonant group. Amount of improvement during the 12-week period also appears to be highly significant. Intelli-

gence and social maturity appeared to be unrelated to articulatory ability five years later. —M. F. Palmer.

442. STEVENSON, HAROLD W. (Univer. of Minnesota, Minneapolis) **Learning of complex problems by normal and retarded Ss.** Amer. J. ment. Def., 1960, 64, 1021-1026. Two experiments were conducted with normal and retarded Ss in which performance was compared in complex learning tasks. In a task involving a series of two-choice object discriminations and in a task involving a pattern discrimination, no significant differences in learning speed between the two groups were found. —From Author's Summary.

443. STEVENSON, HAROLD W. (Univer. of Minnesota, Minneapolis), & WEIR, MORTON W. **Developmental changes in the effects of reinforcement and nonreinforcement of a single response.** Child Developm., 1961, 32, 1-5. Data for 30 subjects at each of four age levels from 3 through 9 years were selected to determine the effects of initial nonreinforcement and reinforcement of a single response on behavior during the subsequent trial. Significant differences were found in the effects of both reinforcement and nonreinforcement as a function of CA. A strong tendency was found for the negative recency effect to increase with increasing CA. The results were interpreted as indicating that utilization of a single S-R unit is inappropriate in the analysis of the behavior of older children and adults. —Authors' Abstract.

444. SUGIMURA, TAKESHI, & IWABARA, SHINKURO. **Studies on shifts of discrimination learning: II. Effect of a wide range of trials in prior learning.** Jap. J. educ. Psychol., 1959, 7, 191. The authors have found in a previous study that the difficulty in shifting discrimination learning without added instruction increased and then decreased along with the number of reinforcements during prior learning. Although comparisons of some pairs of groups differing in the number of reinforcements showed statistically significant differences, an over-all group difference failed to reach the usual standards of significance. The present experiment was designed to confirm the previous findings with more distributed number of reinforced trials in prior discrimination and with different subjects and settings. Subjects aged 15 to 19 were trained on a simple two-choice size discrimination problem with another stimulus dimension of color being 50% reinforced. Five groups were differentiated with respect to learning criteria of 3, 5, 10 successive correct responses, 10 such responses plus 20 correct responses, and the same 10 responses plus 40 correct responses, respectively. When the criterion was met, the subject was shifted without interruption to color discrimination with the same stimulus setting and without added instruction. The learning criterion in color discrimination was 10 successive correct responses irrespective of group differentials. Moreover, a control group was run with the same criterion without taking size discrimination. Number of subjects per group was 10 and groups were roughly equated with respect to age, sex, and intelligence. The results indicated that negative transfer in color discrimination appeared until the criterion in prior learning reached 5 successive correct responses and that positive transfer appeared, beyond this point, with the increase of reinforced trials during the period of size discrimination. . . . Both negative and positive effects were statistically significant. Thus, the previous study was confirmed. It was also found that, when 5 successive correct responses had been attained, the subject made almost no errors beyond this point. . . . It should be noted that this point was a critical inflection point from negative to positive transfer. The fact suggests that the subject overlearns the size problem as he is trained over this critical point and he begins to learn the stimulus situation as a whole. In other words, he begins to have a learning set or a set in discrimination and this makes a shift easier in discrimination. Before the inflection point, the subject is responding to a specific stimulus and is learning to choose a particular reinforced stimulus. Thus negative transfer is expected. It should be noticed that previous studies by other authors on this issue have dealt with the data only after the critical point, i.e., overlearning. (From English Summary) —A. Grams.

445. SUTTON-SMITH, B., & ROSENBERG, B. G. (Bowling Green State Univer., Ohio) **A scale to identify impulsive behavior in children.** J. genet. Psychol., 1959, 95,

211-216. The present investigation sought to derive a scale which would reliably distinguish the most impulsive from the least impulsive children. Two approaches to scale derivation, based on adult responses and one based solely on the responses of children furnished two scales. When combined, these yielded a third scale containing 19 items. This scale was validated by using teacher ratings with a sample of 171 children. Test-retest reliability was +.85. Boys were found to score significantly higher than girls on the impulsivity scale. Grade was not uniformly influential in determining performance on the scale. —Authors' Summary.

446. TABOURET-KELLER, ANDRÉE. *L'usage écrit des formes temporelles du verbe chez les enfants.* (Children's usage of verb tenses in writing.) *Enfance*, 1960, No. 3-4, 143-171. The purpose of this study is to examine the progression of the usage of verb tenses in the writings of unilingual children. Elementary school children (about 100 from each of seven grades), ages 8-14, were given the Cattell Culture-Free Test and a series of four drawings with captions about which they were to write a narrative. The youngest subjects and the less intelligent ones used the present tense almost exclusively, because they knew no other. The medium age group tended to mix tenses. The older pupils, especially the more intelligent ones, used present tense consistently because they had mastered the use of the historical present. —F. V. Bussgang.

447. TAKAHASKI, SHIGEO. *An investigation into aggressive behavior of children as seen through projective tests.* *Jap. J. educ. Psychol.*, 1960, 8, 85-91. This is a study of the relation between children's overt aggressive behavior in the classroom, as rated by their teachers, and the aggressive content these children produce in their TAT and Hostile Sentence Construction Test (HSCT) protocols and in their compositions about their classmates. It was hypothesized that the relation between overt aggression and aggressive content (TAT) would be positive and linear and that between overt aggression and aggressive content (HSCT) it would be curvilinear. Results: There was a significant relation between overt aggression and the amount of aggression expressed in the children's compositions. [The English abstract does not indicate in which direction, so it is presumed to be positive.] There was no significant relation between overt aggression and hostile content in TAT protocols. As predicted, the relation between overt aggression and hostile content on the HSCT was curvilinear. Children rated at both extremes for overt aggression gave significantly more hostile content in response to the HSCT than did children rated as moderately aggressive. (From English Summary) —A. Grams.

448. TARJAN, GEORGE, DINGMAN, HARVEY F., & MILLER, CURTIS R. (Pacific State Hosp., Pomona, Calif.) *Statistical expectations of selected handicaps in the mentally retarded.* *Amer. J. ment. Def.*, 1960, 65, 335-341. Newly admitted and resident patients were examined for those handicaps which constitute major nursing problems. These disabilities were plotted against age and IQ and were presented in the form of topographic charts. The findings call attention to the need for intensified habilitation programs and lend themselves to estimating the probabilities of those handicaps in patient groups when age and IQ are known. —From Authors' Summary.

449. TERRELL, GLENN, & WARE, ROBERT. (Univer. of Colorado, Boulder) *Role of delay of reward in speed of size and form discrimination learning in childhood.* *Child Develpm.*, 1961, 32, 409-415. This paper reports the relative effects of a delayed reward and an immediate reward (light flash) in two experiments involving size and form discrimination learning problems. 40 Ss, kindergartners and first graders, were used in each experiment. In both experiments, Ss learned significantly more quickly when rewarded immediately following correct responses than when rewarded following a delay of seven seconds. There were no task differences. It is believed that both associative and incentive factors played a role in determining speed of learning. —Authors' Summary.

450. TOBIAS, JACK, & GORELICK, JACK. (Training Center & Workshop, N.Y.) *The utility of the Goodenough Scale in the appraisal of retarded adults.* *Amer. J.*

ment. Def., 1960, 65, 64-68. The utility of the Goodenough Draw-a-Man test in the appraisal of retarded young adults, 17 to 30, was conducted on a noninstitutionalized population employed at a training center and sheltered workshop. Findings on reliability, relationship to WAIS IQ scores, and the relationship of these to a measure of work efficiency are presented. "The Goodenough score appears to predict work efficiency as well as does the WAIS Full Scale IQ but not as well as does the WAIS Performance Score." —J. W. Fleming.

451. WALTERS, RICHARD H., MARSHALL, WILLIAM E., & SHOOTER, J. RICHARD. (Univer. of Toronto, Canada) **Anxiety, isolation, and susceptibility to social influence.** *J. Pers.*, 1960, 28, 518-529. 36 adolescent boys were assigned to one of four conditions: isolated anxious, isolated nonanxious; nonisolated anxious; nonisolated nonanxious. Each S was tested for suggestibility in the autokinetic situation before and after exposure to the experimental condition. Anxious Ss showed a greater increase in suggestibility, in response to contrary judgments, than did non-anxious Ss. They were also more quickly conditioned to give a specific class of judgments. No differences were found between isolated and nonisolated Ss. Ss' self-reports indicated that the anxiety-arousing condition had produced its intended effect. The results were interpreted as supporting a theory advanced by Walters and Karal that social isolation has, in itself, no effect upon susceptibility to social influence, but that under anxiety-arousing conditions, which sometimes are produced by social isolation, Ss can be more readily influenced than when anxiety is not present. —Authors' Summary.

452. WHEELER, D. K. (Univer. of Western Australia, Nedlands) **Development of the ideal self in Western Australian youth.** *J. educ. Res.*, 1961, 54, 163-167. The purpose of this study was to investigate the developmental trend of the ideal self based on the work of Havighurst, Robinson and Dorr. The author analyzed questionnaire data from 276 first year, 257 third year, and 166 fifth year secondary students of both sexes. "From early to late adolescence there is a diminution in the number of parental figures chosen and an increase in the number of characters who are either imaginary composites of desirable qualities or blends of admired traits abstracted from more than one real person." —I. Woronoff.

453. WILLIAMS, JOANNA P., & KESSEN, WILLIAM. (Yale Univer., New Haven, Conn.) **Effect of hand-mouth contacting on neonatal movement.** *Child Devolpm.*, 1961, 32, 243-248. The relation between hand-mouth contacting and activity, measured by a film analysis technique, was studied in an investigation of the hypothesis that hand-mouth contacting is tension-reducing in the newborn. The present study utilized filmed observations of days 1, 3, and 5 of the lying-in period for 10 newborns. No significant differences were found between mean activity level during the five seconds preceding a hand-mouth contact and that of the five-second period immediately following a contact. Regression of activity on time preceding a contact was not significantly different from zero. There was a significant but very small decrease (opposite in direction to expectation) in activity as time following a hand-mouth contact increased. When the data for day 1 were eliminated from the analysis, none of the relations was significant; nor were the results of an analysis of the day 1 data alone. The implication and generality of these findings were discussed. —Authors' Summary.

454. WILSON, DON J. **Quickness of reaction and movement related to rhythmicity or nonrhythmicity of signal presentation.** *Res. Quart. Amer. Ass. Hlth phys. Educ. Rec.*, 1959, 30, 101-109. The reaction time and movement time was measured with both rhythmic and nonrhythmic stimulus presentation. The subjects were 50 college men; each had 35 trials under each of the two conditions. The average reaction time was .198 sec. with the rhythmic signal presentation, significantly different from that obtained when nonrhythmic presentation was used. The average movement time was not significantly different for the two methods. The correlation between individual differences in reaction and movement times was quite low ($r = .308$) and of questionable significance. —H. H. Clarke.

455. WINITZ, HARRIS. (State Univer. of Iowa, Iowa City) **Spectrographic investigation of infant vowels.** *J. genet. Psychol.*, 1960, **96**, 171-181. An evaluation of Lynip's thesis that adequate study of the prelinguistic utterances of infant speech must be devoid of such handicaps as the fallibilities of the human ear and of the use of phonetic systems was made. It was concluded that his assumption was illogical and unwarranted. 31 infant vowels, agreed upon by seven or more judges as to the actual vowel spoken, were subjected to spectrographic analysis. The obtained formant frequencies (frequency of Formant 1 versus frequency of Formant 2) were plotted in a two-dimensional graph. —Author's Summary.

456. WITRYOL, SAM L. (Univer. of Connecticut, Storrs), & FISCHER, WILLIAM F. **Scaling children's incentives by the method of paired comparisons.** *Psychol. Rep.*, 1960, **7**, 471-474. This study was designed to explore the usefulness of the method of paired comparisons as a scaling approach to children's incentives. Preferences for five incentives consisting of bubble gum, balloons, charms, marbles, and paper clips were determined for 27 nursery school children who rated the objects by means of the method of paired comparisons. The means of Kendall's coefficients of consistence calculated were .84, and the coefficient of agreement was .40. Scale positions calculated by Guilford's Short Cut Method reflected incentive preferences in the order listed above and are similar in value to relative reinforcement strengths demonstrated in the recent literature on child learning. The consistence coefficients reflect high individual consistency, while the agreement coefficient indicates moderate coherence for group-scaled preference positions. The findings suggest an economical approach for measuring reward values of various objects as children scale them at different age levels. Discrimination learning, validation studies have been designed. —Authors' Summary.

457. WOHLWILL, JOACHIM F. (Clark Univer., Worcester, Mass.) **Absolute vs. relational discrimination on the dimension of number.** *J. genet. Psychol.*, 1960, **96**, 353-363. This study is concerned with discrimination learning on the dimension of number, and in particular with developmental changes in absolute responses as a function of experience with number concepts. Experiment I consisted of a two-stimulus discrimination, with varying configuration of 5 (+) and 3 (-) dots at stimuli. Tests for transposition and generalized absolute and relational transfer showed that up to the age of about 11, at least, discrimination learning remained entirely relational in these children. In Experiment II, a three-stimulus discrimination involving a response to 5 dots as against 3 and 8 dots, transposition was much less prevalent, and decreased significantly between the ages of eight and 11, while absolute transfer increased significantly. Two alternative interpretations of the results are proposed, one in terms of the relative familiarity of the various relational and absolute mediators in the two situations, the other based on the Gestaltist hypothesis of the dominance of relational over absolute stimulus properties in perception. While the data do not permit a decision between these two interpretations, it is suggested that situational and experimental factors interact in these situations to determine the particular aspect of the stimulus to which the subject will respond. The results of our study further indicate that the transposition of a relationship between two stimuli and that of an intermediate-stimulus relationship may represent two rather different problems, the latter probably involving processes of a more complex order. —Author's Summary.

458. WRIGHT, Verna. **Factors influencing diurnal variation of strength of grip.** *Res. Quart. Amer. Ass. Hlth phys. Educ. Rec.*, 1959, **30**, 110-116. Diurnal variations in strength of grip was studied periodically on some occasions from 9 a.m. to 10 a. m.; on other occasions the tests were continued during the night. Grip strength means fell during the night, a constant occurrence for all subjects, but usually returned by 9 a.m. Repeated testing, beginning tests at different times, and staying awake at night did not alter the pattern. The rapid recovery of strength following immobilization of the arm in plaster for varying lengths of time indicated that immobilization was not the sole causative factor. A diurnal variation of body tempera-

ture with the strength of grip was noted; this also occurred when the body temperature of three subjects was artificially increased by 2° F by immersion in hot water. —H. H. Clarke.

459. WURTZ, KENNETH R. (Michigan State Univer., East Lansing) **The expression of guilt in fantasy and reality.** *J. genet. Psychol.*, 1959, 95, 227-238. 38 nursery school children were divided equally into an experimental group and a control group and given a standard 20-minute doll play session to establish rapport. Following this, they were administered a pretest and a posttest consisting of six matched pairs of incomplete doll play stories all of which involved deviations by the child doll similar in sex to the subject. During the interval between the pretest and the posttest, the experimental group underwent a guilt-arousing experience and the control group did not. The guilt-arousing situation was the collapsing of a doll house with which the child was playing. The child's completions of the stories and his responses to the collapsing doll house were categorized and recorded. Hypotheses were (a) that the guilt-arousing situation would produce an increase in the guilt responses of the experimental subjects to the doll play stories, (b) that this increase would be greatest in the stories similar to the guilt-arousing situation and least in the stories different from it, and (c) that there would be positive relationships between their guilt responses in the doll play situation and their responses to the guilt-arousing situation. The results failed to confirm these hypotheses. . . . From Author's Summary and Conclusions.

460. ZAZZO, BIANKA. **L'image de soi comparée à l'image de ses semblables chez l'adolescent.** (The self-image of the adolescent compared to his image of peers.) *Enfance*, 1960, No. 3-4, 121-141. This study attempts to show the differences adolescents perceive between themselves and their peers. 198 male adolescents, ages 15-19, in Normal School were given traits in a questionnaire to assign to four groups—adolescent boys, adolescent girls, men, and women. 87 volunteers of this group were interviewed and asked to dissociate the self-image from that of the peer group. The self-image and the peer-image of the interview were both contrasted with the typical portrait of the questionnaire. Subjects tended to see others as having more audacity, taste for risk, self-assurance, and attaching more importance to appearing intelligent; themselves as liking more solitude, attaching more importance to friendship, love, and professional success, and being more revolted by social injustices. Those under 17, those living at school, and those with close friends and comrades tended to see less differences between themselves and the group than older adolescents, those living at home, and those with fewer close friends. —F. V. Bussgang.

461. ZAZZO, RENÉ, & HURTIG, MARIE-CLAUDE. **L'inclinaison de l'écriture.** (Inclination in handwriting.) *Enfance*, 1960, No. 3-4, 173-197. The authors have attempted to show that inclination in handwriting is a psychological expression of the individual. The authors surveyed the handwritings of 4,000 subjects from age 7 to 60, concluding that, while most handwriting slants to the right, as most subjects had been taught, there is an increase in vertical writing and slanting to the left as the individual becomes more autonomous. There is an increase as a child approaches adolescence, earlier and more marked for girls than boys, and there is greater frequency in young adults than in older generations and in subjects of a higher social and cultural milieu than in those from a lower milieu. In an experimental study 135 boys, ages 8 to 14, were given the same example to copy under four circumstances—large format, small format, lined paper, unlined paper. It was found that the inclination of the writing especially that to the right, was less when the format was smaller. When paper was unlined, there were more irregularities and less slanting to the right. —F. V. Bussgang.

PSYCHIATRY AND MENTAL HYGIENE

462. ANDERSLAND, PHYLLIS BURGESS. **Maternal and environmental factors related to success in speech improvement training.** *J. Speech Hearing Res.*, 1961, 4, 79-90. Long-term effects of a kindergarten speech improvement program on

articulation and relationship to socioeconomic levels, certain maternal personality traits, and maternal-family attitude factors. The Gordon Personal Profile, Parental Attitude Research Instrument, and a personal data questionnaire were given to 94 mothers who were evaluated on socioeconomic level. Relationships seemed to exist between children's articulation and maternal scores in the extremes of personality tests. Effects upon articulation of maternal rejection, adjustment, and of superior intelligence in the child appeared to warrant additional research. —M. F. Palmer.

463. AVAKIAN, SONIA A. (Fordham Univer.) **The applicability of the Hunt-Minnesota Test for Organic Brain Damage to children between the ages of ten and sixteen.** *J. clin. Psychol.*, 1961, **17**, 45-49. The applicability of the Hunt-Minnesota Test for Organic Brain Damage to children between the ages of 10 and 16 was investigated. The subjects were two groups of 18 boys each. Individual matching of pairs of boys in the experimental and the control groups was done on the basis of age, grade, and IQ. The specific criterion to be met by the boys assigned to the experimental group was a history of head injury. The subjects in the control group had to satisfy the criterion of absence of a history of head injury. (1) A statistically significant difference between the means of the control and experimental groups was found at the 1% level on the Hunt-Minnesota test. (2) On the basis of inspection of the distribution of scores on the Hunt-Minnesota test, a tentative critical score was set at 60. By using this critical score, all but one of the experimental subjects would be correctly diagnosed as having brain damage, and those having a higher score would be classed as being more seriously deteriorated. 14 of the control subjects would be tested as normal, the remaining 4 being wrongly diagnosed. (3) Hence, on the basis of the results of this investigation showing a fairly definite differentiation between the scores of each group, it may be concluded that a specific tool for the diagnosis of deterioration, namely the Hunt-Minnesota test, has been shown to be useful in detecting mentally deteriorated children in the 10 to 16 year age range. —Author's Summary.

464. BAKER, JOHN W. (Washington State Dept. of Institutions, Olympia), & HOLZWORTH, ANNETTE. **Social histories of successful and unsuccessful children.** *Child Develpm.*, 1961, **32**, 135-149. The social histories of children in a state mental hospital were compared with those of successful children in a control group, matched for sex and age. A total of 142 children, between the ages of 13 and 16 years, were included in the study. Of the 83 items in the histories that were statistically analyzed, 52 were significant at or beyond the 5% level. The differences and similarities in the social histories of the patient and control groups were presented and discussed. Some traditionally held theories were confirmed and others were refuted or questioned by the findings of this study. —Authors' Summary.

465. BETTELHEIM, BRUNO. **Feral children and autistic children.** *Amer. J. Social.*, 1959, **64**, 455-467. Ogburn's investigation, which demonstrated that "The Wolf Boy of Agra" had not actually been reared by wolves at all, brings up the possibility that most so-called feral children may simply be children suffering from very severe infantile autism, and sometimes also from feeble-mindedness. The behavior reported to be characteristic of so-called feral children strongly resembles that of severe cases of infantile autism, which demonstrate apparently animal-like traits and habits, and are now being treated at the Orthogenic School of the University of Chicago. These cases are mostly children of intelligent, educated, middle-class parents, with no possibility of the influence of animals on their upbringing. The cause of their autistic behavior, in large part, if not totally, seems to be extreme emotional deprivation together with experiences which are interpreted by them as threatening their destruction. So-called feral children may simply be autistic and/or feeble-minded children who have been rejected and abandoned by their parents. —W. J. Smith.

466. BOWER, ELI M. (Calif. State Dept. Educ., Sacramento), SHELLHAMER, THOMAS A., & DAILY, JOHN M. **School characteristics of male adolescents who later became schizophrenic.** *Amer. J. Orthopsychiat.*, 1960, **30**, 712-729. High school students who later became schizophrenic were found to be significantly differ-

ent from a randomly selected control group of their peers in the manner in which they are perceived by their school staffs and in certain phrases of their school records. The school staff and school records were found to contain sufficient relevant data on students to adequately assess the predisposition of the preschizophrenic group. The developing schizophrenic boys tended to have less interest in girls, group activities, and athletics. They showed less leadership skills and were more submissive, anxious, dependent and careless than the average boy. Although they were less well liked by their peers and teachers and did less well in school, they were not usually perceived as major problems or as being emotionally disturbed. However, in almost all cases their over-all mental health and school adjustment was rated significantly poorer than the control group. With a few exceptions most of the preschizophrenics could be characterized as tending toward the shut-in, withdrawing kind of personality. —
Authors' Summary.

467. BURNS, ROBERT C. (Children's Orthopedic Hosp., Seattle, Wash.) **Behavioral differences between brain-injured and brain-deficit children grouped according to neuropathological types.** Amer. J. ment. Def., 1960, 65, 326-334. Using objective neuropathological criteria two groups of children matched for age were selected from 1,400 consecutive cases referred to psychology in a children's hospital. Group A consisted of children normal until age three, with subsequent CNS insult and tissue injury. Group B consisted of children with known brain tissue underdevelopment or mal-development. Consistent differences as measured by Wechsler Intelligence Scale for Children subtest scores, both group and individually, were obtained. —From Author's Summary.

468. CADITZ, SYLVAN B. (King County Juvenile Court, Seattle, Wash.) **Effects of a forestry camp experience on the personality of delinquent boys.** J. clin. Psychol., 1961, 17, 78-81. In order to test the hypothesis that a forestry camp experience will have the effect of modifying delinquent boys so they will become less like delinquents and more like a nondelinquent adolescent population, three groups were established. The experimental group consisted of 17 boys who were assigned to a youth forestry camp. All of these boys were judged to be no major security risk. The average age of this group was 16-6 years. One control group consisted of 94 boys (mean age of 15-6 years) confined to a training school and a second control group of 97 high school sophomores. All three groups were given the MMPI and were retested after an average interval of 5 to 6 months. The mean scores on the 12 MMPI scales were compared. The results indicate that on the first testing the forestry group scored significantly lower on the F scale than the training school group. The Pd scale was the only scale on which the forestry boys scored significantly higher than the non-delinquent controls. There was no instance in which the forestry boys scored significantly higher than the training school boys. The retest showed the forestry boys scoring significantly lower on the Pd scale than the training school group. The forestry group, however, did remain significantly higher than the nondelinquent group. In addition, the Hy and Pa scales of the forestry group became significantly lower than the training school group. The author concludes that "for at least one type of delinquent boy, the forestry camp experience is associated with improvement in social attitudes and level of emotional maturity." —A. M. Kaplan.

469. CHAPMAN, A. M. (Univer. of Kansas Sch. Med., Kansas City) **On managing adolescents.** J. Amer. med. Ass., 1960, 174, 1954-1957. During adolescence the individual must move from a position of dependence on the family home toward emotional, social, and economic independence. It is also the period of sexual maturation, with the need for sound, acceptable channeling of sexual urges. The physician is often consulted about the problems and adjustments of adolescents and their parents, and for this he needs, some simple rules and valid advice to offer these patients. A set of rules is outlined, emphasizing that the adjustments of adolescence require flexibility by both parents and adolescents as the parents gradually relinquish authority and control to the adolescent who progressively assumes them. Seven guide rules to facilitate this transition are given and the major pitfalls of adolescence are discussed. —Journal Summary.

470. COROTTO, LOREN V., & CURNUTT, ROBERT H. **The effectiveness of the Bender-Gestalt in differentiating a flight group from an aggressive group of adolescents.** *J. consult. Psychol.*, 1960, 24, 368-369. Using the objective scoring system devised by Pascal and Sutell, it was found that male psychiatric adolescent patients who react primarily in an aggressive manner had poorer Bender-Gestalt scores than those who reacted by withdrawal. The contrary was found to be the case for female adolescent patients. —E. E. Levitt.

471. CURNUTT, ROBERT H., & COROTTO, LOREN V. (Napa State Hosp., Imola, Calif.) **The use of Bender Gestalt cut-off scores in identifying juvenile delinquents.** *J. proj. Tech.*, 1960, 24, 353-354. To determine the effectiveness of B-G cutoff scores as a screening device for juvenile delinquents, a sample of 120 B-G protocols of adolescent delinquents were coded and scored without knowledge of the individual case. The distribution was analyzed in terms of cutoff scores reported in the literature. The results indicate that extreme caution must be used in applying cutoff scores mechanically in any but the grossest type of differentiation. —Authors' Summary.

472. DALTON, KATHARINA. (Univer. Coll. Hosp., London) **Schoolgirls' behaviour and menstruation.** *Brit. med. J.*, 1960, 2, 1647-1649. In schoolgirls there is a significant increase in misbehaviour during menstruation, particularly offences such as unpunctuality, forgetfulness, and avoiding games. The offences during menstruation are especially increased among naughty girls. Two types of naughtiness could be distinguished. Firstly, that occurring predominantly during menstruation. These girls were free from psychological stress and tended to be more intelligent. Secondly, that occurring evenly throughout the cycle, in girls with recognized psychological problems. The administration of punishments by the prefects is significantly influenced by menstruation. —Author's Summary.

473. DARYN, E. (52 La Guardia St., Tel Aviv, Israel) **Problem of children with "diffuse brain damage."** *Amer. Arch. gen. Psychiat.*, 1961, 4, 299-306. Clinical material of a total of 170 children (age 3-15) referred to a Mental Health Clinic were surveyed in a pilot effort to identify the operation of "diffuse brain damage" in psychiatric cases. Diffuse brain damage was defined in terms of clinical behavior, minor neurological findings, and slight malformative features. All children were referred for psychiatric consultation with the belief that the problems were of psychogenic origin as the general physical examinations were negative. 84 of the children were diagnosed as having "diffuse brain damage." No control group was employed. —J. Siller.

474. DITTMAN, ALLEN T., & GOODRICH, D. WELLS. (Natl Inst. Mental Hlth, Bethesda, Md.) **A comparison of social behavior in normal and hyperaggressive preadolescent boys.** *Child Developm.*, 1961, 32, 315-327. Two groups of preadolescent boys, eight well-functioning normals and four hyperaggressive patients, were studied by observation of free social behavior in the identical living situation, adult personnel, and programmed activities. While there is similarity between the groups, the differences in a number of areas were striking: (1) The hyperaggressive group showed more intensity of interaction than the normals. (2) In quality of normally involved interaction toward peers, the patients were more hostilely dominant and less dominant in a friendly, supporting way than the normals. (3) Toward adults the patients were also more hostilely dominant and less friendly dominant than the normals. The normals, on the other hand, were more hostilely submissive to the adults than were the patients. (4) In inappropriately intense behavior toward peers, the two groups were very similar. Toward adults, however, there were strong differences: intense reactions of the normals were at once more friendly-dominant and more hostilely-submissive than the patients. (5) The patients' behavior was rather stereotyped, with a few categories accounting for a large proportion of their interactions, while the normals used a wider repertoire of behavior. (6) Adults' behavior toward the two groups was much less different than the groups were from each other, most of their behavior being role-appropriate helping, supporting, and leading. The small

amount of inappropriately intense interactions they displayed was directed more toward the patients than toward the normals. As regards appropriately involved behavior, the adults were more frankly hostile and friendly toward the normals and more controlled in dealing with the patients. —Authors' Summary.

475. EASSON, W. M., & STEINHILBER, R. M. (Univer. Saskatchewan, Saskatoon, Canada) **Murderous aggression by children and adolescents.** Amer. Arch. gen. Psychiat., 1961, 4, 1-9. Murder and murderous violence committed by children and adolescents occur where there is parental fostering, albeit unconscious. The literature concerning the psychogenesis of murder by individuals is considered. Eight cases are presented, the oldest patient being 16 years of age. Seven of these patients made a murderous assault and one actually did commit murder. The background family psychopathology of these patients is varied both in its character and in its malignity but shows certain definite psychodynamic patterns. All cases demonstrate that one or both parents had fostered and condoned murderous assault. —Authors' Summary.

476. ELLINGSON, ROBERT J. (Univer. Nebraska Coll. Med., Omaha) **Cortical electrical responses to visual stimulation in the human infant.** EEG Clin. Neurophysiol., 1960, 12, 663-677. A total of 1142 recordings were obtained from 944 full-term and 198 premature infants during stimulation by single and repetitive flashes of light. Responses recorded from over the occipital cortex differed from those of adults in being of more variable wave-form, more variable (and often higher) amplitude, longer latency, and greater "fatigability." The most marked changes with age were decreasing response latency, increasing response to more and more rapidly repeated stimuli, and a shift from a response with an initial negative phase to the classical response with initial positive phase. Response latency was negatively correlated with body weight ($r = -.80$) up to about 12 pounds. Curves of response latency vs. body weight and vs. age were two-phased rather than monotonic, the breaks occurring at 9 pounds and 4 week post-term respectively. It is suggested that these curves may reflect either a growth spurt in the visual system or different developmental rates in two parts of the visual system. —D. H. Eichorn.

477. FISHER, GARY M. (Fairview State Hosp., Costa Mesa, Calif.) **A cross-validation of Baroff's WISC patterning in endogenous mental deficiency.** Amer. J. ment. Def., 1960, 65, 349-350. 100 institutionalized males and females ranging in age from 8-14 to 15-11 were administered the standard 10 subtests of the WISC. Ranking analyses indicated that only 8% of the Ss showed the pattern found in 45% of Baroff's Ss. The best three-subtest pattern was present in only 33% of the Ss. —J. W. Fleming.

478. FISHER, GARY M. (Fairview State Hosp., Costa Mesa, Calif.) **Discrepancy in verbal and performance IQ in adolescent sociopaths.** J. clin. Psychol., 1961, 17, 60. On the Wechsler-Bellevue, I, mean Performance IQ was significantly greater than mean Verbal IQ in white and Mexican-American, but not Negro, adolescent sociopaths. P IQ was significantly greater than V IQ (22 or more points) three times as frequently in the white and Negro groups, and 7 times as frequently in the Mexican-American group, as occurred in the standardization population. —Author's Summary.

479. FLETCHER, SAMUEL G., HASKINS, RICHARD C., & BOSMA, JAMES F. **A movable bulb appliance to assist in palatopharyngeal closure.** J. Speech Hearing Disorders, 1960, 25, 249-258. A movable bulb prosthetic appliance was designed to assist hypernasal voice subjects in achieving total pharyngeal closure and was utilized experimentally in five subjects. Significant improvement in speech was immediately apparent. Radiographic comparisons showed that, with the appliance in place, ventrad movement of the upper pharyngeal wall occurred in three of five subjects. Without the appliance, no movement occurred except in swallowing. —M. F. Palmer.

480. FREEDMAN, ALFRED M. (450 Clarkson Ave., Brooklyn, N.Y.), DEUTSCH, MARTIN, & DEUTSCH, CYNTHIA P. **Effects of hydroxyzine hydro-**

chloride on the reaction time performance of schizophrenic children. Amer. Arch. gen. Psychiat., 1960, 3, 153-159. "The purposes of the study were: (1) to examine the responses to schizophrenic children on a reaction time task in terms of over-all responsiveness to sound and light, and in terms of modality shifting and set formation, (2) to compare these responses after a tranquilizing agent, hydroxyzine hydrochloride (Atarax), was administered." A third purpose was to compare the performance of the 14 schizophrenic children with that of 24 normal elementary school children who received no drug at any time. Light and sound means and variances were not significantly affected by the drug. Pre- and postdrug mean differences between the groups of light and sound were significant as were variance differences for light. Modality shifts and set formations were generally insignificant. "Behavioral observations indicate considerable reduction in fear and behavioral disturbance in the testing situation in the postdrug condition." —J. Siller.

481. FREEDMAN, DANIEL G. (Roscoe B. Jackson Mem. Lab., Bar Harbor, Maine), KING, JOHN A., & ELLIOT, ORVILLE. Critical period in the social development of dogs. Science, 1961, 133, 1016-1017. Litters of puppies were isolated, with the bitch, in fenced acre fields from 2 to 14 weeks of age. They were removed indoors at different ages, played with for a week, and returned to the field. The pups manifested an increasing tendency to withdraw from human beings after 5 weeks of age and unless socialization occurred before 14 weeks of age, withdrawal reactions from humans became so intense that normal relationships could not thereafter be established. —Abstract.

482. GARDNER, D. BRUCE, HAWKES, GLENN R., & BURCHINAL, LEE G. (Iowa State Univer., Ames). Noncontinuous mothering in infancy and development in later childhood. Child Develpm., 1961, 32, 225-234. The long-range effects on personality development of an unusual, noncontinuous mothering experience in infancy were studied to determine whether the earlier experience constituted a form of deprivation. Subjects were 29 children ages 8 to 17 who had lived in a college home management house during infancy and were subsequently adopted. These were paired with subjects from the same communities on the basis of sex, age, intelligence, and membership in the same school class. Attempts to match also for age and educational level of parents, socioeconomic status of family, occupation of father, and number of siblings were only partially successful. Tests of school achievement, personal and social adjustment, anxiety level, and response to frustration were given. In none of these variables could differences be attributed to the factor of discontinuity of mothering in early childhood. —Authors' Abstract.

483. GORDON, MORTON J. Third grade television-classroom articulation program. J. Speech Hearing Disorders, 1960, 25, 398-404. 197 pupils from 20 different third grade classrooms were given a speech improvement course employing a combination of television and instruction. The experimental group demonstrated considerable improvement over a 9-week period and demonstrated fewer errors than a control group which received no specific speech improvement training. Television may prove a valuable supplementary tool. —M. F. Palmer.

484. GREEN, R. (Johns Hopkins Univer. Sch. Med., Baltimore, Md.), & MONEY, J. Incongruous gender role: nongenital manifestations in prepubertal boys. J. nerv. ment. Dis., 1960, 131, 160-168. Five prepubertal boys who at the time of their referral were assuming many of the behavioral characteristics of girls, have been studied. Representative excerpts from their transcribed interviews as well as other data are presented under the following subheadings: presenting symptoms; age at onset of symptoms; stated desire to be of the opposite sex; parental relationship; physique; IQ; family attitude toward sex; sibling sequence; desire by parents for a child of the opposite sex; mother identification; gender-appropriate play activities; awareness of sex differences; psychologic healthiness appraisal; and prognosis and therapy. No one variable was found to be consistent with the etiology of gender-role disorder among these children. A theoretical discussion of the findings is offered

with some reference to the concept of imprinting as it may apply in the early establishment of inappropriate gender role. —Authors' Summary.

485. GROLD, L. JAMES, Jr. (Hq. Third Armored Div., APO 39, New York City) **Drawing the family triangle: an adjunct to the psychiatric evaluation.** Bull. Menninger Clinic, 1961, 25, 69-77. To evaluate the intrafamilial relationships of psychiatric patients, a drawing technique is described which places sharp focus on family relationships. After drawing his parents, the patient is requested to draw himself into the existing parental scene (i.e., on the same sheet) while expressing his thoughts. 40 patients were interviewed in this way. These interviews are anxiety provoking and were viewed by some therapists as interfering with the therapeutic process. Others felt that the patient's efforts to reduce his anxiety in his activity permits observation and understanding of the defensive operations of the ego. —E. N. Plank.

486. HAWORTH, M. R., & WOLTMANN, A. G. **Rock-A-Bye Baby: a group projective test for children.** Psychological Cinema Register (Pennsylvania State Univer.), PCR-2094. "A filmed puppet show designed to elicit projective responses of children from 5 to 10 years of age. Taps areas of sibling rivalry, aggressions, fears, guilt feelings and attitudes toward parents. Suggested uses: personality research and diagnostic screening in schools and psychology clinics. Designed for use with groups. Special manual includes directions for administering the film and scoring the protocols."

487. HILGARD, JOSEPHINE R., NEWMAN, MARTHA F., & FISK, FERN. (Stanford Univer., Calif.) **Strength of adult ego following childhood bereavement.** Amer. J. Orthopsychiat., 1960, 30, 788-798. Loss of a parent in childhood is a serious blow for any child. We have observed the protective importance: (1) of a compatible relationship with a definition of roles between the parents prior to a death; (2) of a strong surviving parent who accepts his or her dual role with courage and with a minimum of conflict; (3) of a network of family and/or community resources which the parent is able to use; (4) the development of a separation tolerance prior to the death of the parent through the whole series of separations involved in the course of psychosexual development. (5) Grief and mourning occur in this total matrix and in addition are affected by factors such as the age and sex of the child and the sex of the parent lost. (6) Dependence of the surviving parent, particularly the mother, upon growing and grown children may exert an effect on the degree of maturity achieved by the ego in close interpersonal relationships. —Authors' Summary.

488. HOFFMAN, LOIS WLADIS. (Univer. of Michigan, Ann Arbor) **Effects of maternal employment on the child.** Child Developm., 1961, 32, 187-197. In studying the effects of maternal employment on the elementary school child, this research differentiated working mothers who enjoyed work from those who did not. Each group of working mothers was compared to a matched group of nonworking mothers. The hypothesis was that the like-work group would feel guilty about their employment and try to compensate by a pattern bordering on overprotection, thus producing a passive child; while the dislike group, being relatively guilt-free, would withdraw from the maternal role and require a child's household help, thus producing a hostile, assertive child. The results in general conformed to these expectations. Working mothers who liked work, compared with their nonworking counterparts, showed more positive affect toward the child, felt more sympathy, less hostility, and used less severe discipline. Their children played more with younger children, initiated fewer friendships, had less influence on peers, and were lower in intellectual performance and ability. Working mothers who disliked work, compared with their nonworking counterparts, showed less coerciveness and less power assertion toward the child. Their children participated more in household tasks, were more assertive toward the mother, used more physical force on peers, showed less impulse control, lower intellectual performance, less adaptive responses to frustration, and, for boys only, more teacher dependency. —Author's Abstract.

489. HUNT, RAYMOND G., ROACH, JACK L., & GURRSIN, ORVILLE. **Social-psychological factors and the psychiatric complaints of disturbed children.**

J. consult. Psychol., 1960, 24, 194. Relations among symptom complaints made by parents about children in an urban child guidance clinic and a number of background factors are discussed briefly. —E. E. Levitt.

490. HUTTON, CHARLES. A diagnostic approach to combined techniques in aural rehabilitation. J. Speech Hearing Disorders, 1960, 25, 267-272. 18 subjects were used in testing a pedagogical procedure consisting of nine steps useful in teaching phoneme recognition to persons with hearing disorders. Application of these procedures indicated that those who showed the most gain for combined stimuli also showed substantial gains in auditory and visual discrimination. On the other hand, those who made the largest amount of gain in auditory scores tended to make little gain in visual discrimination. Clients under the age of 50 are more likely to benefit from combined phonemic training than those above age 50. —M. F. Palmer.

491. JENKINS, SHIRLEY. (Federation of Handicapped, New York City) Some characteristics of homebound adolescents in New York City. Except. Child., 1960, 27, 175-182. An examination of disabilities, aspects of home instruction, and selected characteristics is made of homebound high school students with both physical handicaps and emotional disturbances. —J. W. Fleming.

492. KIDD, JOHN W. (Northwestern State Coll., Natchitoches, La.) Diagnostic referral rates for exceptional children. Except. Child., 1960, 27, 199-201. A summary description is presented of 1033 children referred over a three year period to a diagnostic center. —J. W. Fleming.

493. LEHMAN, EDWARD. (310 West End Ave., New York City) The monster test. Amer. Arch. gen. Psychiat., 1960, 3, 535-544. A simply administered and scored test is described which utilizes the proverb, "Two heads are better than one," to probe ability to abstract, strength of one's human body image, and quality of reality testing. After the verbal response, which usually indicates whether the concept evoked is of two people or of two heads on a single body, S draws the concept. Initial findings on 550 psychiatric persons between the ages of 6 and 16 are reported. "In almost 60% of psychotic youngsters and in less than 10% of nonpsychotic ones, the test evoked the concept of various types of monsters . . . with infrequent exceptions, monster responses are obtained only from the psychotic." The test was also of value "in differentiating some pseudodefective psychotic children from true mental defectives." —J. Siller.

494. LONDON, NATHANIEL J., & MYERS, JEROME K. (Yale Univer., New Haven, Conn.) Young offenders. Amer. Arch. gen. Psychiat., 1961, 4, 274-282. Data on psychiatric status, social class, race, and recidivism are reported for a group of 85 male offenders (age 16-25). This group consisted of an entire youthful county jail population over a specified period of time with certain defined exclusions. Subjects were seen by one of a psychiatric team, a lawyer, and a sociologist. When indicated, psychological testing was done. Despite the relatively small total number of cases and diminution of N due to subdividing groups, important relations between the extent and type of psychiatric problems and social class, race, and recidivism are reported. "The usefulness of distinguishing a group of subjects presumed relatively healthy has been demonstrated." —J. Siller.

495. MEZEI, TARA C. (Ontario Hosp., New Toronto, Canada), & ROSEN, JOSEPH. Dominance behavior as a function of infantile stimulation in the rat. Amer. Arch. gen. Psychiat., 1960, 3, 53-55. The effect of infantile gentling on social dominance was studied, using 28 male albino rats. 14 of these rats were gentled (tactually stimulated) 5 minutes daily from age 13 to 25 days. At 47 days of age dominance was measured by pairing each gentled S once with every ungentled S in a series of 5-minute competitive feeding situations. The tests were repeated from 135 to 148 days of age to determine long-term effects. The results indicated that ". . . rats receiving tactial stimulation in the form of systematic gentling during infancy are more dominant than a control group of ungentled animals . . . differences in dominance-submission behavior persisted in the adult life of the rat." —J. Siller.

496. MONSEES, EDNA K. **Aphasia in children.** J. Speech Hearing Disorders, 1961, 26, 83-86. Author believes that aphasic difficulty in children is a disorder in the perception of temporal sequence, auditory, and perhaps visual. No adequate tests of aphasia exist. —M. F. Palmer.

497. MUUSS, ROLF E. (Goucher Coll., Baltimore, Md.) **The effects of a one- and two-year causal-learning program.** J. Pers., 1960, 28, 479-491. The purpose of this study was to investigate the extent to which Ss who had participated in an experimental learning program designed to develop self-understanding and an appreciation of the dynamics of human behavior differ from control Ss on measures of causality and mental health. 25 Ss who had participated in an experimental learning program for two years were matched with 25 Ss who had been in the program for one year and also with another 25 Ss who served as controls and had not participated in any experimental learning program. The Ss of all three groups were matched individually on IQ and sex and as a group on age. Four tests were used as measures of causality and six tests were used as measures of mental health. For each of the 10 variables a randomized analysis of variance design was utilized; if the F ratio was significant, t tests between each of the three groups were computed. In general, the findings support the hypothesis that experimental Ss show more knowledge of causality and they respond more in line with mental-health criteria. The differences in knowledge of causality were more obvious than the differences obtained on measures of mental health. In comparing the two-year experimental group with the control group, six out of 10 mean differences were significant; comparing the two-year experimental group with the one-year experimental group, five out of 10 mean differences were significant; comparing the one-year experimental group with the control group one out of 10 differences was significant. It thus appears that the effects of an experimental program designed to develop a causal understanding and mental health become more noticeable after at least two years of participation in the program. —Author's Summary.

498. MUUSS, ROLF E. (Goucher Coll., Baltimore, Md.) **Mental health implications of a preventive psychiatry program in the light of research findings.** Marriage Fam. Living, 1960, 22, 150-156. The paper reviews the research findings that have been gathered in Ojemann's experimental causal learning program and that shed some light on the question: To what extent does the Preventive Psychiatry Program contribute to mental health? The accumulative evidence from presently available data allows for the following conclusions. (1) The causal nature of human behavior can be taught even at the elementary school level. (2) The research studies give support to the hypothesis that a causally oriented subject is less punitive, less anxious, more tolerant, more democratic, more responsible, more secure, has fewer conflicts, and shows better school adjustment. (3) The findings strongly suggest that a more lasting effect involving behavioral changes should not be expected until at least two years after the beginning of training in causality. (4) The teaching is more effective if it is integrated into all subject matter areas and if the teacher can interact causally with her students. —Author's Abstract.

499. MUUSS, ROLF E. (Goucher Coll., Baltimore, Md.) **The relationship between "causal" orientation, anxiety, and insecurity in elementary school children.** J. educ. Psychol., 1960, 51, 122-129. A factorial analysis of variance design was used to investigate differences between high causally ($N = 148$) and low causally ($N = 111$) oriented fifth and sixth grade children on the criterion variables: security, anxiety, and lie responses. Findings support the hypothesis that high causally oriented Ss are significantly more secure, less anxious and give fewer L responses than low causally oriented Ss. The obtained differences are equally obvious for the fifth ($N = 105$) as well as for the sixth grade Ss ($N = 154$). Except for anxiety scores ($.10 > p > .05$), differences remain significant for 50 Ss matched on IQ scores. Experimental classes designed to develop a causal approach to human behavior contributed significantly more highly causally oriented Ss than did the control classes. —Author's Abstract.

500. NATTERSON, JOSEPH M., & KNUDSON, ALFRED G. (City of Hope Med. Center, Duarte, Calif.) *Observations concerning fear of death in fatally ill children and their mothers.* Psychosom. Med., 1960, 22, 456-465. (1) Observations concerning the behavior of 33 children fatally ill with leukemia or related disorders are presented. The following conclusions are reached: (a) In addition to distress directly due to illness, these children manifested behavioral changes in response to three environmental factors, namely, separation from the mother, traumatic procedures, and deaths of other children. (b) The reactions to these environmental stresses are considered to represent separation fear, mutilation fear, and death fear. (c) There is a strong age-dependence of the fully developed forms of these fears, separation fear occurring first and death fear last. (d) The evolution of these fears seems to be related to the maturation of consciousness. (2) Observations on the 33 mothers of these fatally ill children are also presented. The following conclusions are reached: (a) It is assumed that the fatal illnesses in the children constituted death threats to the mothers. (b) The mothers reacted to the illnesses with a triphasic response when disease lasted 4 months or more. (c) Denial was most characteristic of the initial phase. (d) Calm acceptance of death of the child with improved integration characterized the terminal phase. (e) Increased sublimation was suggested in some mothers during the terminal phase. (f) In contrast to the mothers, the reactions of the staff were least well integrated during the terminal phase. (3) The findings reinforce, but do not prove, the hypothesis that the existential problem of death constitutes an important variable in individual and group development. —Authors' Summary.

501. OGBURN, WILLIAM FIELDING. *The wolf boy of Agra.* Amer. J. Sociol., 1959, 64, 449-454. An Indian newspaper reported the finding of a 6-year-old boy who had been reared by wolves for four and one half years. Investigation revealed that the child actually had not been reared by wolves, and also yielded some information about how such stories originate and are spread. It is not to be concluded from this study, however, that no other children have ever been reared by animals. —W. J. Smith.

502. OURTH, LYNN, & BROWN, KENNETH B. (Univer. of Missouri, Columbia) *Inadequate mothering and disturbance in the neonatal period.* Child Devolpm., 1961, 32, 287-295. An experiment was conducted to investigate certain characteristics of mothering and their effects on the human neonate. The authors propose that adequate mothering of newborns consists basically of continuing the patterns of stimulation which normally occur intrauterinely, especially mild pressure and rhythmically changing body stimulations. On this basis the hypothesis was proposed that a deficiency in such stimulation of the neonate results in disturbed behavior. The Ss were two groups of 10 biologically normal neonates who were under the experimental conditions for about 4.5 days following birth. One group ("nonmothered") was handled no more than necessary in routine hospital care, and the other ("mothered") was treated the same way except for the administration of specified lengths of mild firm support and rhythmical body stimulations at feeding times. The results showed that the nonmothered group cried significantly more than the mothered group, particularly when no external instigation was present. It was concluded that the results support the hypothesis but that more definitive research is required to determine whether differences in prenatal stimulus conditions are related to the type and amount of postnatal mothering needs) —Authors' Summary.

503. PALMER, MARTIN F. *Managing overprotective tendencies with speech-impaired children.* J. Speech Hearing Disorders, 1960, 25, 405-408. Analysis of constructs of etiology of the overprotective tendency of parents of speech-impaired children, with suggestions for rehabilitation. —Author's Abstract.

504. PETERSON, DONALD R. (Univer. of Illinois, Urbana), BECKER, WESLEY C., SHOEMAKER, DONALD J., LURIA, ZELLA, & HELLMER, LEO A. *Child behavior problems and parental attitudes.* Child Devolpm., 1961, 32, 151-162. Previous research on parent-child relations led to three hypotheses for the present study: (1) Fathers' attitudes are at least as closely related as those of mothers to child

behavior problems. (2) Child personality problems are related to paternal autocracy and lack of concern. (3) Child conduct problems are related to maladjustment among mothers and disciplinary ineffectuality among fathers. 53 kindergarten children and 24 children attending a guidance clinic participated in the research. Their parents were interviewed and rated on five factors of parental attitude; the children were independently rated by parents and teachers on three dimensions of problem behavior. Attitudes for the two groups of parents were then compared, and correlations established between parental attitudes and child problems. The first hypothesis was clearly supported, but a conjunction of the second two was not. Instead, strict, cold, aggressive paternal attitudes were diffusely associated with personality problems, conduct problems, and autism among the children. The difference between these and previous results is probably a function of age discrepancy between the two samples of subjects. Among older children, considerable paternal firmness seemed necessary for the prevention of child conduct problems. For these younger children, parental affection seemed more generally important. —Authors' Abstract.

505. PETERSON, DONALD R., (Univer. of Illinois, Urbana), QUAY, HERBERT C., & TIFFANY, THEODORE L. **Personality factors related to juvenile delinquency.** *Child Developm.*, 1961, **32**, 355-372. Since juvenile delinquents have little in common but the commission of some legally defined delinquent act, scientific study of the problem could profit materially from the specification of more unitary concepts based on the behavior of delinquents themselves. To this end, four questionnaires which differentiate delinquents from nondelinquents were administered to 203 training school inmates and to 203 high school boys. The items in each questionnaire were inter-correlated over the entire sample, and four separate factor analyses conducted. The resulting first order factors were individually interpreted, relations between them were examined, and a second order factorization was performed. The following results emerged: (1) Psychopathy and Neuroticism factors isolated in previous research were almost identically reproduced in the present first order analysis. (2) A factor called "Inadequacy" in the previous study did not appear in this investigation, (3) Differences in item content from questionnaire to questionnaire occasioned differences in meaning of first order factors, but many of the latter could be subsumed under second order concepts of Psychopathic and Neurotic Delinquency. (4) Most of the remaining first and second order dimensions seemed to refer to a history of delinquent behavior, but interpretation as test-taking defensiveness was also frequently considered. —Authors' Abstract.

506. PIERCE, CHESTER M. (Univer. Oklahoma Med. Center, Oklahoma City), WHITMAN, ROY M., MAAS, JAMES W., & GAY, MICHAEL L. **Enuresis and dreaming.** *Amer. Arch. gen. Psychiat.*, 1961, **4**, 166-170. During 10 nights of study, 8 boy enuretics were studied to see how their bed-wetting related to dreams. It was found that dreams usually occur approximately two hours after enuresis. When enuretic the child is usually deeply asleep both by electroencephalographic and clinical observation. At the moment of bed-wetting the boy may have an erection. When awakened at the moment of dreaming, the enuretics' dreams are found to be filled with aggressive fantasies. At the present time we consider an individual episode of enuresis to be a dream substitute or equivalent. As such it is a discharge phenomenon with no psychological concomitant. —Authors' Summary.

507. QUAY, HERBERT C., PETERSON, DONALD R., & CONSALVI, CONRAD. **The interpretation of three personality factors in juvenile delinquency.** *J. consult. Psychol.*, 1960, **24**, 555. Further investigation is seen as supporting the three personality factors obtained by a factor analysis of two personality scales administered to juvenile delinquents. —E. E. Levitt.

508. ROSENTHAL, DAVID. (Natl Inst. Mental Hlth, Bethesda, Md.) **Confusion of identity and the frequency of schizophrenia in twins.** *Amer. Arch. gen. Psychiat.*, 1960, **3**, 297-304. It is suggested that a "confusion of ego identity" theory of schizophrenia which could account for higher concordance in MZ (monozygotic) than in DZ (dizygotic) twins, also implies a higher frequency of the illness in twins than in

nontwins, and in MZ than in DZ twins. The best evidence available indicates that such differential rates do not occur, casting doubt on the theory. —Author's Summary.

509. RUBIN, LEONARD S., & STEIN, GERALD H. (Univer. of Pennsylvania, Philadelphia) **Scotopic visibility in normals and psychotics.** *J. clin. exp. Psychopath. & Quart. Rev. Psychiat. Neurol.*, 1960, 21, 231-239. The results of the experiments to measure the course of rod dark adaptation in normals and psychotics suggest that measurements of scotopic visibility are a sensitive index of central neural excitability. —J. D. Teicher.

510. RUDEL, RITA G. (New York Univer. Sch. Med., New York City), TUEBER, H.-L., LIEBERT, R. S., & HALPERN, S. **Localization of auditory midline and reactions to body tilt in brain-damaged children.** *J. nerv. ment. Dis.*, 1960, 131, 302-309. 72 brain-damaged children, 5-17 years old, and carrying a neurological diagnosis of "cerebral palsy," were asked to set a sound source to the midline while their bodies were tilted. The Pathologic group was matched with the normal group for age, the variable upon which the settings appeared to depend. Results were analyzed according to (1) constant errors, which depended on the posture of S, and (2) average starting-position errors, which depended on the position of the stimulus at the beginning of each trial. In both respects, brain-damaged children lagged behind normal children developmentally. In the setting of the auditory midline, the difference between the two groups emerged only in late childhood and increased. On the other hand, from the earliest age tested, brain-damaged Ss made larger starting-position errors than normal Ss, and this difference was maintained throughout. Further, Ss with severe neurologic impairment had larger starting-position errors than Ss with mild impairment, and these, in turn, had larger starting-position errors than normal Ss. There were no differences between subgroups established according to neurologic designation as "spastic," "athetoid" or "ataxic," or in terms of IQ. —Authors' Summary.

511. SCHECHTER, MARSHALL D. (435 N. Bedford Drive, Beverly Hills, Calif.) **The orthopedically handicapped child.** *Amer. Arch. gen. Psychiat.*, 1961, 4, 247-253. Clinical impressions of children in an orthopedic hospital are presented, primarily from the psychoanalytic point of view. Briefly discussed are defense mechanisms, affect states, object relations, attitudes toward their future, their theories of disease, and characteristics of body image. —J. Siller.

512. SCHUTT, CHARLES C., GIBSON, DAVID, & BEAUDRY, PHILIPPE. (Ontario Hosp. Sch., Smiths Falls, Canada) **The efficacy of sedac therapy with mal-adjusted mentally retarded girls.** *Amer. J. ment. Def.*, 1960, 64, 978-983. 14 mentally retarded adolescent females suffering from chronic behavior maladjustment were matched by pairs and prescribed a 30-day regime of either Sedac electrical stimulation, or placebo. 15 negative and 15 positive behavior traits were rated at the start and termination of treatment, and two months after cessation of treatment. Analysis showed no significant change in Pseudo-Sedac Ss, whereas Sedac Ss showed a significant decrease in negative behaviors, and over-all change, from the start to the follow up period. The results ". . . are possibly the consequence of the interaction of (conversation before and after daily treatment) with electrical stimulation, rather than being the exclusive result of either alone." —J. W. Fleming.

513. SEMMEL, MELVYN I. (State Univer. of New York, Buffalo) **Comparison of teacher ratings of brain-injured and mongoloid severely retarded (trainable) children attending community day-school classes.** *Amer. J. ment. Def.*, 1960, 64, 963-971. 17 teachers rated the observed behavior of 59 mongoloid and 59 brain-injured retarded children in the areas of Self-Help, Social, Motor, Academic, and Vocational Skills. There were no differences between the matched groups on mean ratings, but the motor ratings of the brain-injured were significantly more variable. Further analyses involving IQ, CA, MA, and sex are reported. —From Author's Summary.

514. SHAW, CHARLES R. (Hawthorne Center, Northville, Mich.), & SUTTON, H. ELDON. **Metabolic studies in childhood schizophrenia. II. Amino acid excretion**

patterns. Amer. Arch. gen. Psychiat., 1960, 3, 519-521. Urinary excretion of the following amino acids was measured in 10 schizophrenic and 12 nonschizophrenic children: valine, leucine, tyrosine, alanine, glutamine, lysine, threonine, taurine, glycine, serine, and -aminoisobutyric acid. There were wide individual variations in output of most of the amino acids. The schizophrenic and nonschizophrenic groups did not differ significantly in excretion of any of the amino acids. —Authors' Summary.

515. SIEVERS, DOROTHY J., & ROSENBERG, CARL M. (Columbus State Sch., Ohio) **The differential language facility test and electroencephalograms of brain-injured mentally retarded children.** Amer. J. ment. Def., 1960, 65, 46-50. The EEG tracings of 50 brain-injured mentally retarded children were grouped into four categories: grand mal pure, grand mal and petit mal mixed, hypothalamic, and slowing. The scores of the four groups on the Differential Language Facility Test were compared. —From Authors' Summary.

516. SOMMERS, RONALD K., COCKERILLE, CLARA E., PAUL, CLARA D., BOWSER, DOLORES C., FICHTER, GEORGE R., FENTON, ANN K., & COPE-TAS, FLORENCE G. **Effects of speech therapy and speech improvement upon articulation and reading.** J. Speech Hearing Disorders, 1961, 26, 27-38. Effects of speech improvement and speech therapy upon articulation and reading of 752 children in the first grade defective in one or more of 10 consonant sounds, 760 children with normal articulation, and 2 matched groups of 25 children with more severe articulation problems. Reading comprehension and factor scores for children with misarticulations and for children with normal articulation were not significantly changed by speech correction procedures, except in the matched group with severe problems. Articulation was improved more by speech therapy than by speech improvement materials. —M. F. Palmer.

517. THURSTON, JOHN R. (Wisconsin State Coll., Eau Claire) **Attitudes and emotional reactions of parents of institutionalized cerebral palsied, retarded patients.** Amer. J. ment. Def., 1960, 65, 227-235. A 40% return was obtained of Thurston Sentence Completion Forms mailed to 610 parents and near relatives of institutionalized cerebral palsied patients. Inferences about remembered and current attitudes and emotional reactions are made. —J. W. Fleming.

518. WAGNER, NATHANIEL N. **Developmental aspects of impulse control.** J. consult. Psychol., 1960, 24, 537-540. This study investigated the relation between family pathology, as measured by the Bloch-Behrens Multiproblem Family Index, and the level of impulse control in 36 boys in a residential treatment center. "Impulse control" was defined by means of ratings by professional staff. Family pathology was found to be inversely related to impulse control. —E. E. Levitt.

519. WALLACH, MICHAEL A., ULRICH, DAVID N., & GRUNEBEAUM, MARGARET B. **Relationship of family disturbance to cognitive difficulties in a learning-problem child.** J. consult. Psychol., 1960, 24, 355-360. A single case study is presented in an effort to demonstrate how family interpersonal difficulties may result in school failure in the child. —E. E. Levitt.

520. WERNER, EMMY (Nat'l Inst. Health, Bethesda, Md.), & GALLISTEL, ELIZABETH. **Prediction of outstanding performance, delinquency, and emotional disturbance from childhood evaluations.** Child Devolpm., 1961, 32, 255-260. (1) Scores on a number of pupil inventories and teacher ratings of groups of school children later recognized as outstanding, delinquent, or emotionally disturbed were significantly different from the norms for their age and sex. Singly or in combination, however, they did not prove adequate for predicting outcomes for a particular individual. The best predictor instruments would seem more valuable as supplements to IQ and SES information available in school records than as independent screening instruments. (2) A sizeable proportion of the relation between adjustment measures and later outcomes can be accounted for by intelligence and socioeconomic status. (3) After control for IQ and SES, the single predictor which more consistently differ-

entiated special group members from their agemates was a teacher rating scale, requiring ratings of personality characteristics on a five-point scale. As raters, the teachers had the opportunity to compare characteristic behavior of individual children with their age-mates and to sample it in different situations over longer periods of time. The personality dimensions covered by the scale were broad enough to characterize both outstanding, disturbed, and delinquent groups and to be meaningful at each developmental stage—late childhood, adolescence, and adulthood. (4) The measure which most effectively differentiated delinquents of both sexes was a pupil instrument measuring social responsibility. It consisted of short descriptive phrases which had been validated empirically against groups known to be high or low on this specific criterion. (5) Measures reporting the range of recreational activities, the number of chores performed at home, the number of experiences liked, the general "affect" as determined from sentence completion tests, and the number of psychoneurotic symptoms all failed to predict membership in any of the special groups. —Authors' Summary and Conclusions.

521. WOLPE, J. (Univer. Virginia Sch. Med., Charlottesville), & RACHMAN, S. Psychoanalytic "evidence": a critique based on Freud's case of Little Hans. *J. nerv. ment. Dis.*, 1960, **131**, 135-147. The main facts of the case of Little Hans are presented and it is shown that Freud's claim of "a more direct and less roundabout proof" of certain of his theories is not justified by the evidence presented. No confirmation by direct observation is obtained for any psychoanalytic theorem, though psychoanalysts have believed the contrary for 50 years. The demonstrations claimed are really interpretations that are treated as facts. This is a common practice and should be checked, for it has been a great encumbrance to the development of a science of psychiatry. —Authors' Summary.

PUBLIC HEALTH AND HYGIENE

522. BAILEY, MARTIN J. (Univer. of Chicago, Ill.) Factors associated with variations in maternal death rates. *Hum. Biol.*, 1960, **32**, 274-287. State-by-state mortality and related statistics from the "Vital Statistics of the United States," 1955, are employed as the basis of this multiple regression study of maternal death factors. Primary interest is in effects of such factors as number of births in hospitals, closeness of state supervision, and number of hospital beds, etc. The conclusions are not clear cut and can be evaluated only in terms of various statistical checks. —D. H. Eichorn.

523. CURETON, THOMAS K. Physical training helps to regulate and improve glandular functions: a review of research. *Res. Quart. Ass. Hlth phys. Educ. Rec.*, 1959, **30**, 266-284. This is a research review on value and utilization of physical training in the regulation and improvement of glandular functions. Primary attention is devoted to the pituitary-adrenal, the thyroid, and the pancreas glands and the gonads. 70 references are listed. The author stated that man's ability to keep his glands functioning normally probably determines, more than anything else, his endurance, vigor, disposition for exercise, and sexual ability; the intimate association of all of these has long been assumed and is verified by the research review. The need for a continuous and properly regulated exercise regime as a way of life is supported. —H. H. Clarke.

524. FERBER, BERNARD (State Dept. Hlth, Albany, N.Y.), & BRIGHTMAN, I. JAY. An interdepartmental approach to mental retardation: use of data from diagnostic clinics for program planning. *Amer. J. publ. Hlth*, 1960, **50**, 1570-1581. The New York State Interdepartmental Health Resources Board was established in 1956 for the purpose of providing the teamwork necessary in dealing with the many-faceted needs of the mentally retarded. This paper is devoted to a description of the 3 demonstration diagnostic and parent counseling clinics established by the Board. These and 3 other clinics have been cooperating in a system of reporting. Data are reported for 710 patients reported by the clinics. About 54% were under 6 years of age, with twice as many boys as girls. 40% had received no previous specialized

services in mental retardation. Of the 710 children seen, 655 were accepted and completed the diagnostic work-up. 14% of the 655 were considered not to be mentally retarded. Recommendations for service, mainly schooling and training, were made for nearly all the children. Evaluation was also made of the patient's ultimate ability to function in the community as an adult. It was considered good in about 25% of those for whom prognosis was made, poor in another 25%, and guarded in 50%. —I. Altman.

525. FINEBERG, HENRY H. (Children's Memorial Hosp., Chicago, Ill.), & JONES, ELIZABETH C. *Mother's bank in a children's hospital*. J. Amer. med. Ass., 1960, 174, 2153-2154. The functioning of a "Mother Bank" program is described. Volunteers, for the most part older women, who have been given a short orientation course in hospital practices and in the emotional needs of the child, are assigned to one child for whom they are exclusively responsible for body care and feeding. The experience has been gratifying and there is a waiting list for the service. —I. Altman.

526. GALARNEAUX, ALEXANDER F., & THOMPSON, CLEM W. *The selection, development, and evaluation of tobacco smoking concepts*. Res. Quart. Amer. Ass. Hlth phys. Educ. Rec., 1959, 30, 144-154. Physiological, psychological, and socioeconomic tobacco smoking concepts to be used in health education teaching were secured from many sources. These concepts were submitted to expert jurors. A list of comprehensive teachable concepts on the subject was presented. —H. H. Clarke.

527. LESHIN, GEORGE J. *Childhood nonorganic hearing loss*. J. Speech Hearing Disorders, 1960, 25, 290-292. In the Oregon Hearing Conservation Program, 48 cases of suspected nonorganic hearing loss were discovered among 1902 children seen at otological clinics. The combined otological, audiological, medical, social consultants and local health departments worked together to reconcile the data to attempt to arrive at a true level of hearing and to determine familial and environmental factors contributing to the loss. There is a need for the whole area of non-organic hearing problems in children to be explored further. —M. F. Palmer.

528. LESHIN, GEORGE J. *Preschool hearing conservation on a statewide basis*. J. Speech Hearing Disorders, 1960, 25, 346-348. 180 children 2 through 6 years of age were individually tested in 7 days of screening on an average of approximately 26 children per day. 170 individual pure-tone tests, four calibrated speech tests, and six gross voice tests were given. 21% of the cases seen were referred for medical testing. These examinations indicated a considerable number of children with allergic tendencies, fluid behind the eardrums, large tonsils and adenoids, etc. This preschool type of program appears to offer considerable promise in the area of detection and prevention of hearing loss. The game-like nature of audiometry permits testing of children as young as two years of age. —M. F. Palmer.

529. LEVY, DAVID M. (47 E. 77th St., New York City) *The infant's earliest memory of inoculation: a contribution to public health procedures*. J. genet. Psychol., 1960, 96, 3-46. "In this study the infant's memory of inoculation was investigated by means of the infant's cry. The purpose originally was to find a 'safe period'; that is, a particular age in infancy during which inoculations, given according to procedures then in use at New York City health stations, would not be followed by any memory of them. It was assumed for the ages under consideration, the first two years of life, that the infant who remembered a previous inoculation would cry in anticipation of this painful event, when brought back to the place where it occurred. About 2,000 records of serial inoculations were gathered in a number of health stations in New York City in the years of 1951 and 1952. Besides notations of age at the time of each inoculation, the particular inoculum employed, and the exact time of a cry in relation to the sequence of events in the examining room, the data included a number of other items, such as the mother's behavior, the infant's exposure to the cries of other children, and other inoculations or painful events experienced outside the health station. . . . On the basis of our findings in this and a previous study, we may conclude that inoculations given at six-week intervals and completed by six

months of age are most unlikely to be remembered. The inference follows that in the absence of memory for these early inoculations they furnish no source of anxiety for later events. It follows also on the same line of reasoning that the present method, completing immunizations by six months of age in two inoculation-sessions, to be followed by booster shots after intervals of more than two months, appears to be psychologically a safe procedure. . . ."

530. NORTON, MAX C., & LUX, ELIZABETH. **Double frequency auditory screening in public schools.** *J. Speech Hearing Disorders*, 1960, **25**, 293-299. Due to a demand for rapid and reliable pass-fail type auditory screening methods, a sampling of 10,046 subjects was taken from four schools which represented a cross section of the socioeconomic structure of the community. The double frequency method appeared to be less reliable than the 5-frequency method, although simpler and considerably faster to administer. It was less distracting for young children, and less advance preparation was needed. The long-range implications of using double frequency audiometry cannot be ascertained from this study. —M. F. Palmer.

531. PEFFLEY, G. E., & MUHLER, J. C. **The effect of a commercial stannous fluoride dentifrice under controlled brushing habits on dental caries incidence in children: preliminary report.** *J. dent. Res.*, 1960, **39**, 871-874. Boys, 9 to 19 years old, brushed teeth thrice daily for 10 months. In the experimental group the incidence of dental caries was significantly reduced. —W. M. Krogman.

532. PILLSBURY, STIRLING G. (Memorial Hosp., Long Beach, Calif.) **32,465 deliveries with only one mother's death.** *J. Amer. med. Ass.*, 1960, **174**, 2151-2152. Over a 15 year period, 32,465 patients have been delivered at the Memorial Hospital of Long Beach with loss of only one mother. Three factors, in addition to medical advances such as antibiotics and early ambulation, are felt to be important: (1) The requirement of consultation in serious complications; (2) availability of blood at all times so that there has been no death due to hemorrhage; and (3) the employment of younger obstetricians for the administering of obstetrical anesthetics in 70% of all cases. "These young men not only give safe, excellent anesthetics but also act as consultants when emergencies arise." —I. Altman.

533. PANCOVÁ, VĚRA. **Frekvence malokluzí a průměrný věk při prořezávání druhé dentice. Ortodontická péče v čsr.** (The incidence of malocclusion and average age of eruption of permanent teeth. Orthodontic care in Czechoslovakia.) *Cesk. Pediat.*, 1960, **15**, 409-414.

534. RUSHFORD, GEORGINA, & LOWELL, EDGAR L. **Use of hearing aids by young children.** *J. Speech Hearing Res.*, 1960, **3**, 354-360. 1515 families replied to a questionnaire from the John Tracy Clinic. 79.5% of the children had been fitted with at least one hearing aid. Of these, 22.7% had purchased two, 8.9% had purchased three, 2.3% had purchased four, 5.4% had purchased five or more. 61% had the first hearing aid at an age under 5.5 years. More early evaluations are made by audiologists than by physicians. Only 67% of the respondents felt an accurate determination had been made prior to the purchase of the first aid. 43.9% reported the first hearing aid as satisfactory. 45.8% of the children make maximum use of the hearing aid, wearing it as though it were an article of clothing. 52.6% reported that the performance of their child's current hearing aid was satisfactory. —M. F. Palmer.

535. ŠKOVŘÁNEK, VILÉM. **Dosavadní výsledky očkování inaktivovanou a živou vakcínou proti poliometylidě v Československu.** (Present results with immunization with inactivated and live poliomyelitis vaccine in Czechoslovakia.) *Cesk. Pediat.*, 1960, **15**, 415-421. Salk inactivated vaccine had an obvious effect in prevention of poliomyelitis in Czechoslovakia in 1957, when rapid, early and mass inoculation of the most sensitive age group of children prevented the development of an epidemic. Serological investigations up to 8 months after the series of injections showed that immunity from inactivated vaccine declined more rapidly than had been supposed. Investigations with the Sabine live vaccine in the winter of 1958-9 showed a greater incidence of positive immunity than after the 4th injection of Salk vaccine. These

results indicate that more attention should be paid to Sabine vaccine than to further "booster shots" of Salk vaccine. It must also be taken into account that inactivated vaccine does not prevent virus multiplication in the GI tract, so that the threat of epidemic spread among the relatively large nonimmune population remains. One can expect with Sabine vaccine both serum and tissue (intestine) immunity, in addition to a simpler oral route of administration which is of advantage even in a highly developed country. The safety of oral live vaccine has been demonstrated from our own results, and from the more extensive results of more than 10 million immunizations in various republics of the USSR (Chumakov, Voroshilova, Smorodintsev). Balancing these factors, the decision has been taken to carry out mass immunization with Sabine vaccine in children in the spring of 1960. —English Summary.

536. VEENKER, C. HAROLD. A health knowledge test for the seventh grade. *Res. Quart. Amer. Ass. Hlth phys. Educ. Rec.*, 1959, **30**, 338-348. Curricular validity was based on seven widely used health textbooks. The proportion of emphasis devoted to each major area of health information was: personal health, 31%; nutrition, 24%; disease, 22%; environmental health, 16%; and mental health, 7%. The preliminary form of the test contained 216 four-item multiple-choice statements. Three forms of the final test were prepared. Reliability coefficients by the Kuder-Richardson formula varied from .73 to .81. The Votau curve technique was used to determine item validity according to the discriminating power of the test statements. In the final manual, two equivalent forms of the test are presented. —H. H. Clarke.

537. WALLACE, HELEN M. Urban school services for children with hearing loss. *J. Speech Hearing Disorders*, 1960, **25**, 281-289. 106 cities of the United States with a population of 100,000 or over were sent a questionnaire regarding the school services currently being provided for children with hearing loss. There was a considerable variation in the services to the deaf as well as the hard of hearing, and suggestions are made for further strengthening of such services. —M. F. Palmer.

HUMAN BIOLOGY AND DEMOGRAPHY

538. ALLISON, A. C. (Natl Inst. Med. Res., Mill Hill, London) KATES, M., & JAMES, A. T. An abnormality of blood lipids in hereditary spherocytosis. *Brit. med. J.*, 1960, **2**, 1766-1768. The phosphatides and their fatty acids from blood cells of normal and hereditary spherocytic subjects have been analysed. Incorporation of 32P-orthophosphate into phosphatides of normal and abnormal blood cells incubated *in vitro* has also been studied. There is no limitation of overall phospholipid synthesis or turnover, or difference from normal of fatty-acid synthesis, in hereditary spherocytosis. However, the spherocytic cells have a significantly higher proportion of lysophosphatidyl ethanolamine, and a significantly lower proportion of phosphatidyl ethanolamine, than normal cells. Incubation of normal cells in serum to which lysophosphatidyl ethanolamine had been added led to a significant amount of sphering. It is concluded that the primary genetically controlled abnormality in hereditary spherocytosis probably lies in a partial block in the enzymic system for conversion of lysophosphatidyl ethanolamine to phosphatidyl ethanolamine. All other observed differences between normal and spherocytic cells could be secondary to such a defect. —Authors' Summary.

539. BAKER, PAUL T. (Pennsylvania State Univer., University Park) Climate, culture, and evolution. *Hum. Biol.*, 1960, **32**, 3-16. Adaptation and selection are considered as they are influenced by both climate and the culture of man. The thesis is held that man has been influenced by culture for a much greater length of time than is usually assumed by geneticists. To illustrate the author's position on the interaction of climate and culture, variations in the relation of surface area to weight are considered. —D. H. Eichorn.

540. CARRUTHERS, M. F. (Royal Perth Hosp., Western Australia) Mild hereditary spherocytosis—a family study. *Brit. med. J.*, 1960, **2**, 1845-1847. A large

family suffering from symptomless hereditary spherocytosis in three generations is described. The diagnosis was established in affected members on clinical and laboratory findings. No haematological abnormality could be detected in one member who, on genetic grounds, was transmitting the disease. All ten members of the second generation were examined and five were found to be affected. In one affected member of this generation, haematological abnormalities were detected only after repeated testing. It is suggested that the gene responsible for hereditary spherocytosis occurs in allelomorphic form. —Author's Summary.

541. DAVIDSON, WILLIAM M. (King's Coll. Hosp. Med. Sch., Denmark Hill, London) **Sex determination: diagnostic methods.** Brit. med. J., 1960, **2**, 1901-1906. Based on determinations of sex chromatin nodules in buccal and blood smears and on studies of chromosomes from bone marrow cultures, the various levels of sex representation have been described. These levels include chromosomal and nuclear sex (genetic), gonadal and anatomical sex (somatic) and social sex. Abnormalities of sex have also been related to these levels and have been briefly discussed under the following headings: gonadal agenesis, gonadal dysgenesis (Turner's syndrome and Klinefelter's syndrome), true hermaphroditism, pseudo-hermaphroditism and psychological disturbances. —W. W. Sutow.

542. FORSSMAN, HANS. (Univer. of Göteborg, Sweden) **Mental deficiency and pseudoglioma, a syndrome inherited as an X-linked recessive.** Amer. J. ment. Def., 1960, **64**, 984-987. The occurrence of an hereditary defect in two brothers and their uncle is described. There is reason to believe that a maternal uncle of the last-mentioned patient had the same defect. The family tree points strongly to the defect being due to the operation of a recessive X-linked gene. The defect includes a complex eye deformity, diagnosed each time as pseudoglioma by ophthalmologic experts, and mental deficiency present from infancy and apparently of progressive nature. —From Author's Summary.

543. FORSSMAN, HANS (Univer. of Göteborg, Sweden) **Mongolism among inmates of Swedish institutions for mentally deficient—rate and age distribution.** Amer. J. ment. Def., 1960, **65**, 32-36. The age (0 through 64) by sex distributions of the total number of mongoloids (1,267) found in 203 Swedish institutions are presented. —J. W. Fleming.

544. FOSS, G. L. (United Bristol Hospitals) **Intersex states.** Brit. med. J., 1960, **2**, 1907-1909. A classification of sexual anomalies is presented. I. Congenital conditions: 1. Aberrations due to chromosomal defects. (a) True hermaphrodite, XX/XY or mosaics; (b) Gonadal dysgenesis with a male phenotype, Klinefelter XYY; (c) Turner's syndrome, X0 or XX; (d) Gonadal dysgenesis, X0, XX or XY with a female phenotype; (e) Superfemale or metafemale, XXX. 2. Other genetic defects. (a) Testicular feminization or male pseudohermaphrodite, XY; (b) Male with undescended testicles, hypospadias, and female micturition brought up as a female, XY. 3. Embryonic virilization. (a) Pseudohermaphrodite, XX; (b) Steroid-induced pseudohermaphrodite, XX; (c) Adrenal virilism after differentiation of external genitalia, XX. II. Post-natal conditions: 1. Adrenogenital syndrome (hyperplasia or tumor), XX. 2. Stein-Leventhal syndrome, XX. 3. Constitutional virilism, XX. 4. Masculinizing tumors, XX. III. Steroid-induced pseudosex: 1. Pseudofemale, XY. 2. Pseudomale, XX. —W. W. Sutow.

545. HULSE, FREDERICK S. (Univer. of Arizona, Tucson) **Adaptation, selection, and plasticity in ongoing human evolution.** Hum. Biol., 1960, **32**, 63-79. The principal thesis of this paper is that selection and plasticity are both important factors in changes in phenotype, but that the effects of the two mechanisms have been needlessly confused. The main source of data for such investigations have been migrant groups. In such groups, one may observe to what extent the observed phenotype in the original environment was actually genetically determined and to what extent it was the result of plastic accommodation. Plasticity will operate in the first generation in the new environment, while genetic mechanisms will operate more slowly and can

only be observed over very long periods of time. Discussion of the counterbalancing effects of the mechanisms of plasticity and selection is also included. —D. H. Eichorn.

546. LASKER, GABRIEL W. (Wayne State Univer., Coll. Med., Detroit, Mich.) **Migration, isolation, and ongoing evolution.** *Hum. Biol.*, 1960, **32**, 80-88. Migration and isolation play a significant role in human evolution. Ways of evaluating and predicting the effects of each are discussed briefly. The point is made that absolute isolation and marked genetic drift are rare occurrences, but may be responsible in lesser degree for local racial differences. Both interbreeding and migration must be considered as the cause of most of man's evolutionary advances however. —D. H. Eichorn.

547. LEWIS, L. (Sorrento Maternity Hosp., Birmingham) **A case of twin anencephalic pregnancy.** *Brit. med. J.*, 1960, **2**, 1500-1501. A case of binovular twin pregnancy in which both foetuses were anencephalic is described. There was no evidence to incriminate any environmental or hereditary factors in this case. —Author's Summary.

548. LIVINGSTONE, FRANK B. (Univer. of Michigan, Ann Arbor) **Natural selection, disease, and ongoing human evolution, as illustrated by the AB_O blood groups.** *Hum. Biol.*, 1960, **32**, 17-27. The history of investigations into relations between various blood groups and disease susceptibility is reviewed. There was a great interest in the subject during the 1920's and 1930's. The results of these early investigations were so confused and contradictory that the entire theory was dropped. Now, with improved methods and statistics, it would appear that the theory was discarded prematurely. Circumstantial evidence is presented to show that the area should be explored more fully. Some possible mechanisms for the influence of blood groups on various diseases are suggested. —D. H. Eichorn.

549. MOTULSKY, ARNO G. (Univer. of Washington, Seattle) **Metabolic polymorphisms and the role of infectious diseases in human evolution.** *Hum. Biol.*, 1960, **32**, 28-62. The history and epidemiology of some of the great pandemics of man are reviewed with special reference to genetic resistance factors. It is considered likely that infectious diseases were one of the most potent agents of human natural selection in the past. Starvation is briefly discussed as another powerful agent of natural selection. Host tissues for various microorganisms would be a probable site for investigations of metabolic polymorphisms that have been affected by selection. This is exemplified by studies on malaria as a lethal infection of the red blood cell. Various "Aberrant" red blood cell genes are discussed as to their adaptive value in resistance to malaria. —D. H. Eichorn.

550. MURAWSKI, K., & MISZCZAK, T. (Inst. of Hematology, Warsaw, Poland) **Haptoglobin types in Poland.** *Science*, 1961, **133**, 1427. The frequency of the Hpl gene in Polish subjects is 0.36. This frequency is lower than that in Western European populations and higher than that in Asiatic populations. We suggest that the increase in frequency of this gene from East to West has a regular continuous character that may be attributed to a still unclear genetic mechanism. —Abstract.

551. SANDBERG, AVERY A. (Roswell Park Mem. Inst., Buffalo, N.Y.), CROSSWHITE, LOUIS H., & GORDY, EDWIN. **Trisomy of a large chromosome: association with mental retardation.** *J. Amer. med. Ass.*, 1960, **174**, 221-225. A 21-year-old woman with mental retardation was shown to have 47 chromosomes in her bone-marrow cells and to be trisomic for the sixth largest autosome. The nuclei of the patient's buccal mucosa contained two "sex-chromatin" bodies. Her mother was found to have a normal diploid number of chromosomes (46) and a single sex-chromatin body in the buccal mucosa nuclei. This unusual case of trisomy differed in various aspects (discussed in detail) from other published cases of trisomic syndromes. —Authors' Summary.

552. SMITH, DAVID W. (University Hospitals, Madison, Wisconsin), PATAU, KLAUS, THERMAN, EEVA, & INHORN, STANLEY L. **A new autosomal tri-**

somy syndrome: multiple congenital anomalies caused by an extra chromosome. *J. Pediat.*, 1960, **57**, 338-345. Two patients are described who died in early infancy. Each displayed similar complexes of congenital anomalies of which the following ones were found in both: low-set and malformed ears, small mandible, flexion deformities of the fingers, anomalous feet, interventricular septal defect, spasticity with probable mental defect, and diverticulum of the intestine. The chromosome number was 47, the extra chromosome appearing to be the same one in each instance; it belongs to the E group in the classification of Patau and associates. The mothers of both patients were of advanced age at the time of conception. —Authors' Summary.

553. STEARNS, PAUL E., DROULARD, KENNETH E., & SAHHAR, FRED H. (San Francisco) *Studies bearing on fertility of male and female mongoloids.* *Amer. J. ment. Def.*, 1960, **65**, 37-41. Data related to fertility in mongoloids are presented for 23 females, 12 or more years of age, and 21 males above age 15, all institutionalized. Studies of the males consisted of laboratory determination of three semen sperm counts for each patient, including sperm motility and volume of ejaculate. Studies of the females included observations of extent of development of secondary sex characteristics, together with history of age of onset of menses and frequency of menstruation. —J. W. Fleming.

554. WITHERSPOON, Y. T. (Univer. of Utah) *Brain weight and behavior.* *Hum. Biol.*, 1960, **32**, 366-369. A method is proposed by which one can estimate the behavioral (motor) development of a particular fossil series of primates. The theory is based on observed curves in living primates of the relations between age, motor advancement, and percentage of adult brain weight. The intended application would be to select from known fossil series those with slower development and therefore longer dependency periods, thus permitting the transmission of culture. This would enable some speculation as to the ancestors of man. —D. H. Eichorn.

EDUCATION

555. BARTLETT, CLAUDE J., & BAUMEISTER, ALFRED A. (George Peabody Coll., Nashville, Tenn.) *Prediction of classroom discipline problems.* *Except. Child.*, 1960, **27**, 216-218, 220. A study was done to investigate efficiency of five variables in predicting a criterion of classroom discipline problems. Intelligence and achievement scores were included as predictors with three factors from a personality test of juvenile delinquency. The multiple correlation between the five predictors and the criterion indicated that a moderate degree of prediction was possible. —From Authors' Summary.

556. BRADBURN, ELIZABETH. (Univer. of Liverpool, England) *Friendliness in schools.* *Educ. Rev.*, 1960, **12**, 112-124. This is, essentially, an experiment in observation of the atmosphere of friendliness in two small English schools. 22 boys and 18 girls in each school were observed in free play on the playgrounds, and time samples of behavior were kept in diary form. Teachers filled out home environment assessment sheets, and raters assessed each child on the Terman Merrill five-point rating scale (willingness, self-confidence, social confidence, and attention) during interviews. Comparisons of observations and ratings were suggestive but infrequently significant statistically. —E. B. McNeil.

557. DIEDRICH, WILLIAM M., ALLENDER, BARBARA, & BYRNE, MARGARET C. (Kansas Univer. Med. Center, Kansas City) *The value of a preschool treatment program for severely crippled children.* *Except. Child.*, 1960, **27**, 187-190, 195. 15 children were randomly selected who had completed 12 months training in a nursery school where physical, occupational, and speech therapy were incorporated into the program. Most of the children were brain damaged, limited mentally, and physically handicapped. Six and 12 month re-evaluations in the development of lower extremity, upper extremity, receptive and expressive language, and personal-social areas showed improvement in all instances. When contrasted with a nontreatment group, the treated children showed significantly greater change in all areas except development of lower extremities. —From Authors' Summary.

558. HAMILTON, NORMAN K. (Portland Public Schools, Oregon) **Attitudes toward special educational programs for gifted children.** Except. Child., 1960, 27, 147-150, 163. This study was designed to ascertain some general attitudes and opinions of parents, teachers, and children about the characteristics of gifted children and the instructional programs schools provide for them and to ascertain the relation of specific variables to expressed attitudes and opinions. The data for the study were obtained by the administration of specially designed instruments to 989 parents, 524 teachers, and 618 children of junior and senior high school age. Numerous results are presented. —J. W. Fleming.

559. HOLLAND, WILLIAM R. (Univer. of Arizona, Tucson) **Language barrier as an educational problem of Spanish-speaking children.** Except. Child., 1960, 27, 42-50. 36 Spanish-speaking children from grades 1 through 5 were tested bilingually with a special Spanish-English adaptation of the WISC. All but three had some language barrier. It was moderate in 18 cases, serious in seven cases, and very serious in eight cases. Lack of English comprehension was a serious handicap to the educational adjustments of over 40% of this group. Language barrier is greatest among first grade children and decreases steadily with added schooling, but it is still present among fifth grade students in this study. Teachers who could supplement the language of the classroom with that of the home and neighborhood might achieve more optimal results than are presently realized with all classroom instruction exclusively in English. —From Author's Summary.

560. HUDSON, MARGARET. (Santa Cruz High Sch., Calif.) **Lesson areas for the trainable child.** Except. Child., 1960, 27, 224-229. Research findings with respect to frequency of use, emphasis, and age variations are presented for various types of lessons being used in classes for trainable children. The data were obtained through classroom observation in 29 Tennessee classes. —J. W. Fleming.

561. JOHNSON, G. ORVILLE, CAPOBIANCO, RUDOLPH J., & MILLER, DONALD Y. (Syracuse Univer., New York) **Mentally deficient children enrolled in training programs.** Except. Child., 1960, 27, 72-77. An articulation test was administered four times over a period of about 15 months to 32 mentally retarded children attending public school and 80 severely retarded, institutionalized children. 11 sounds were tested in the initial, medial, and final position of a word represented by a picture. There was a trend toward fewer committed errors as IQ increased; both groups made approximately the same progress between the initial and final testing; omissions were the most common type of error. At the beginning of the second year of the study, the Illinois Test of Language Abilities was administered to two groups of individually matched pairs of children, each group containing 11 public school and 13 institution children. The experimental group was given an intensive language development program during the year, and the control group none. A retest at the end of the year showed a nonsignificant gain for the nontherapy group. —From Authors' Summary.

562. McCACKEN, ROBERT A. (Fulton Public Schools, New York) **Accelerating the reading speed of 6th grade gifted children.** Except. Child., 1960, 27, 27-28. Eight gifted sixth grade students with poor silent reading rate received nine lessons of 45 minutes in reading speed. No mechanical devices were used. The pupils showed consistent and considerable gain in speed throughout the course and gained in comprehension. Teaching emphases and pupil reactions are briefly presented. —J. W. Fleming.

563. MORKOVIN, BORIS V. **Experiment in teaching deaf preschool children in the Soviet Union.** Volta Bureau, Reprint No. 735, 8 p. Author reports the amount of language and methods used in the first three years of deaf education, both in Russia and in America. There is a common link in the use of children's activity in firsthand experience as the basis for teaching conversational language, although discrepancies do exist in the methods due perhaps as much to differences in the language as to differences in the techniques themselves. The author feels that finger spelling would

probably not be useful for American children and might impede the acquisition of oral English. —M. F. Palmer.

564. NEVILLE, DONALD. (George Peabody Coll., Nashville, Tenn.) **A comparison of the WISC patterns of male retarded and nonretarded readers.** *J. educ. Res.*, 1961, **54**, 195-197. The problem was to attempt to ascertain whether retarded readers exhibited a pattern of WISC subtest scores which was significantly different from a matched group of nonretarded readers. The groups, containing 35 pairs, were matched in total IQ, sex and grade level. The results indicated that retarded readers did score significantly low in information, arithmetic, and digit span. They scored significantly high in picture arrangement and block design. It was noted that their low scores seemed to be related to scholastic types of tasks and limited ability to concentrate while the high scores were somewhat removed from formal types of learning. Possible teaching implications of the differential performances were mentioned. —Author's Summary.

565. STONE, L. JOSEPH, FIEDLER, MIRIAM FORSTER, & FINE, CAROL GABRIELSON. **Preschool education of deaf children.** *J. Speech Hearing Disorders*, 1961, **26**, 45-60. The effects of a preschool program for deaf children were studied in an experimental group of 12 and a control group of 15 children. The experimental group program emphasized nursery school procedure modeled on best practices with hearing children and early use of individual hearing aids. The control group was taught by more formal procedures characteristic of preschool classes before the inauguration of the new program. In all measures the experimental group proved superior in performance to the control group. —M. F. Palmer.

566. TISDALL, WILLIAM J. (Univer. of Illinois, Chicago) **A follow-up study of trainable mentally handicapped children in Illinois.** *Amer. J. ment. Def.*, 1960, **65**, 11-16. 126 subjects were followed-up 5 years after they had been enrolled in public school classes for the trainable mentally handicapped. —From Author's Summary.

567. WEBB, CLARENCE E., & PARRELL, JEAN. **Unit teaching in speech and hearing at the elementary school level.** *J. Speech Hearing Disorders*, 1960, **25**, 302-303. An effective procedure for children in speech and hearing groups in the public schools is that of following a central theme or unit as a vehicle for speech correction. —M. F. Palmer.

SOCIOLOGY

568. BAYLEY, NANCY, & SCHAEFER, EARL S. (Natl Inst. Mental Hlth, Bethesda, Md.) **Relationships between socioeconomic variables and the behavior of mothers toward young children.** *J. genet. Psychol.*, 1960, **96**, 61-77. A study of the relation of socioeconomic factors to observed maternal behavior in the Berkeley Growth Study tends to confirm findings from other studies based on interviews about childrearing practices. For the total group there was a slight tendency for the mothers of higher socioeconomic status to be more warm, understanding, and accepting, and for those of lower status to be more controlling, irritable, and punitive. These tendencies were present both during the children's first three years, and later at 9 to 14 years of age. The differences were much more evident for the mothers of boys than of girls. In the dimension of Autonomy versus Control there is some evidence for a differential socioeconomic determiner in the treatment of infant sons and daughters: that is, higher status boy babies and lower status girl babies seem to have been granted a measure of autonomy and freedom from maternal supervision. The findings from this analysis of the Berkeley Growth Study data are in accord with other recent studies in showing that any efforts to relate maternal childrearing practices to children's personality must take into account both sex of the child and socioeconomic variables. —Authors' Summary.

569. CAMPBELL, JOHN D., & YARROW, MARIAN RADKE. (Natl Inst. Mental Hlth, Bethesda, Md.) **Perceptual and behavioral correlates of social effectiveness.** *Sociometry*, 1961, 24, 1-20. Perceptual and behavioral correlates of success in inter-personal relations were examined. Subjects were 260 8- to 12-year-olds in summer camps. Behavior records of the children in their cabin groups were analyzed, as were their responses to interviews held at the beginning and end of the two-week camp session. Social effect was an index combining sociometric and guess-who choices. Social perception was a measure based on an analysis of the Ss' descriptions of their peers. The interpretative quality (level of organization and use of inference), but not the content, of these perceptual reports differentiated among children who differed in social effect. The accepted child is accorded greater freedom of action. Reputation showed more stability over time than did behavior. —G. R. Medinnus.

570. CAMPBELL, W. J., & COCHRANE, JAN. (Univer. of Sydney, N.S.W., Australia) **Citizenship expectations in a rural community.** *Austral. J. Educ.*, 1959, 3, 90-96. As part of a larger community study of Karribee (a rural community of 500 persons), all adult members of the community were asked "What are the kinds of things which children and adolescents in Karribee ought to achieve if they are to become good citizens?" Replies were classified into expectation areas and subsequently ranked by the respondents. Expectation areas identified (in order of ranked relative importance) were (1) health and body use, (2) personal and spiritual contentment, (3) moral characteristics, (4) marriage and family life, (5) knowledge and skills, (6) getting along with others, (7) social responsibility, (8) occupational choice and performance. In the rankings women stressed the second of these significantly more than men. Primary responsibility for achieving expectations was assigned by the respondents to the home, with the school as the primary supporting agency, and the church also supporting. Confirmation for the conclusion that "the community of Karribee as distinct from families, schools, etc.) exerts little direct influence upon its young citizens" was found in data of child and adolescent perceptions. —R. Debus.

571. CLIFFORD, EDWARD. (Univer. Colorado Sch. Med., Denver) **Discipline in the home: a controlled observational study of parental practices.** *J. genet. Psychol.*, 1959, 95, 45-82. "The purposes of this study were (a) to describe the disciplinary process as it takes place in the home, (b) to examine relationships between extrinsic factors and discipline, and conditions of social interaction and discipline and, (c) to determine the effects of discipline on the child. The relatively homogeneous sample consisted of 120 mothers of children, 60 boys and 60 girls equally divided among three age levels, three, six, and nine years. Representation was equal from Groups I and II of the Minnesota Scale for Paternal Occupations. Data obtained from mothers consisted of the following: (a) Information about the family. (b) An estimate of how frequently various methods of disciplinary control were used. (c) A measure of parental attitudes toward child-rearing practices. (d) Two adjustment ratings of the child. (e) A daily record, for 21 consecutive days, giving information pertinent to health, activity level, habits, and events occurring in the life of the child. (f) A descriptive account of each incident of discipline occurring during the 21 days on forms specially prepared to equate observations from parent to parent. Data obtained from teachers consisted of two adjustment ratings for each child, identical in form to the ones made by the mothers. General findings: (1) On all of the dimensions examined, the primary factor associated with discipline was the age of the child. . . . (2) Discipline arises in those situations where the child is concerned with routines of daily living, establishing sibling and adult relationships, and in displaying behavior that adults deem inappropriate. . . . (3) Mothers are the persons who are most frequently responsible for disciplining the child. . . . (4) While a large number of different disciplinary controls are used, general preference, in terms of use, is expressed for the use of reasoning as a technique. . . . (5) When discipline does take place it is likely to be relatively short in duration. . . . (6) As the day progresses there is greater likelihood for discipline to occur. . . . (7) While there are some indications that discipline tends to increase on weekends, there are also other days during the week when discipline tends to increase as well, indicating little or no relationship between disci-

pline and the day of the week. (8) The behavior of children in reaction to the application of disciplinary controls seems to be varied. . . . (9) A low positive relationship exists between the frequency of discipline and adjustment ratings of the child. . . . (10) It was found that a low but positive relationship exists between the degree to which parents held opinions concerning child-rearing practices and the frequency with which they disciplined their children. . . ."

572. COLEMAN, JAMES S. **The adolescent subculture and academic achievement.** Amer. J. Sociol., 1960, 65, 337-347. Modern industrial life has brought about the formation of adolescent subcultures altogether distinct from adult society. This investigation reports on the influence of the values upheld by different adolescent subcultures on the individuals within them. The intention was to study 10 high schools in the Midwest which were thought to have quite different status systems; however, the similarities turned out to be much greater than the differences. It was found that, where academic achievement was highly valued, students who did well in academic pursuits included more whose actual intelligence was high than in a school where academic achievement was less highly regarded. The effects which adolescent value systems have upon the educational process were thereby demonstrated, and the powerful effect of interscholastic athletics upon adolescent values was brought out. The possibility was seen of influencing adolescent value systems to put more emphasis on academic achievement by expanding interscholastic competition in academic pursuits such as science fairs, debating teams, scholastic tournaments, and the like. —W. J. Smith.

573. CORNELISON, ALICE R. (Yale Univer., New Haven, Conn.) **Casework interviewing as a research technique in a study of families of schizophrenic patients.** Ment. Hyg., 1960, 44, 555-558. The problems, strengths, and weaknesses of casework interviewing as a research technique are presented. The material is based on 16 cases and represents a study of the interactions of families of young hospitalized schizophrenic patients. The author feels that some of the limitations, such as the factors accounting for subjectivity, "make possible the major contribution of such a method and the perception of subtleties and details in the interlocking human relationships in a family." —R. L. Witherspoon.

574. DENTLER, ROBERT A. (Univer. of Kansas, Lawrence), & HUTCHINSON, J. GLENN. **Socioeconomic versus family membership status as sources of family attitude consensus.** Child Developm., 1961, 32, 249-254. Questionnaire responses of members of 75 families were used to test two hypotheses: intrafamily attitude agreement is greater than agreement among the same subjects assigned randomly to artificial groups; intrafamily attitude disagreement is greater than random group disagreement when socioeconomic status is controlled. The aim was to assess the notion that family members had more in common with each other than with other families on attitudes toward love, companionship and parental authority. Artificial groups were devised by random sorting of individuals into three- and four-person groups containing husband, wife, and children, with each drawn from a different family. Family groups did not show significantly greater amounts of agreement than artificial groups as a whole or per socioeconomic level. The hypotheses were disconfirmed. Differences between socioeconomic classes were significant, however, for both family groups and artificial groups. Further analysis suggested that family-related attitudes are affected differentially by determinants that are not unique to family membership status, namely socioeconomic status, age and sex. —Authors' Abstract.

575. EL KOUSSY, A. H. **The characteristics of rural and urban adolescents in Egypt.** Vita Humana, 1960, 3, 219-226. 800 adolescents attending school in Cairo, Port Said, and rural districts of northern and southern Egypt were tested. Each young person answered four open-ended questions designed to elicit information regarding the self-concept, the home and community, objectives and aims in life, and attitudes about the future. The responses were compared for age and sex as well as for rural urban differences. Two representative conclusions drawn by the author were: (1) "There are no fundamental differences between what is found with our

groups and what is usually known from the psychological literature about European or American groups. There are the strains, the stresses, the changeability, the moodiness, the clumsiness, the feelings of self respect and elation, pride and vanity and the feelings of guilt and self abasement." (2) "The boys compared to the girls look more for family solidarity, for orderliness and quietness. They resent excessive authority from parents and older members of the family. They hate family adherence to old customs and they want more freedom and better means for leisure time activities."

—D. Elkind.

576. HILKEVITCH, RHEA R. (Chicago, Ill.) **Social interactional processes: a quantitative study.** *Psychol. Rep.*, 1960, 7, 195-201. Analysis of social-behavioral and intrapersonal factors (based on Rorschach and sociometric indices) in reciprocal peer choice by 26 boys and 29 girls leads to the following conclusions. (a) There are significantly more complementary traits among boys than common traits. Social interaction takes place between boys who complement each other in strength or weakness of personality, leadership or followership, and social acceptability in a specific situation other than friendship. Communal traits may be found mainly in the intellectual sphere. (b) Reciprocal-choice behavior of girls, on the other hand, is based more on similarity than difference of attributes. The complementary characteristics are in the area of adaptivity, affective as well as intellectual (color variables, and A on the Rorschach), with communal in social-behavioral traits and peer status. (c) Social interactional processes can be studied quantitatively and meaningfully differentiated by peer status and sex. —Author's Summary.

577. LEVINE, GENE N., & SUSSMANN, LEILA A. **Social class and sociability in fraternity pledging.** *Amer. J. Sociol.*, 1960, 65, 391-399. A detailed questionnaire was mailed to 890 prospective freshman students of an Eastern technical college. 92% were completed and returned. It was found that, the higher the family income and the more gregarious the student, the more likely he would be to apply for membership and to be accepted in a social fraternity. Youths from higher income families, regardless of sociability, and youths from low income families, if the sociable, fraternity type, were found to be more acceptable as fraternity brothers than youths who were both from low income families and of limited social experience and competence. Closeness to parents was discovered to be negatively correlated with fraternity pledging among those whose fathers did manual labor; but no such relation was apparent among those whose fathers did nonmanual work. Rejection of the values of lower class origins seemed to be a prerequisite before youths from low income families could find acceptance in these college fraternities. —W. J. Smith.

578. LEWIS, VERL S. (Univer. of Maryland, Baltimore), & ZEICHNER, ABRAHAM M. **Impact of admission to a mental hospital on the patient's family.** *Ment. Hyg.*, 1960, 44, 503-509. By means of interviews with families of 109 patients in mental hospitals within 3 weeks of the patient's admission, the investigators report the impact of mental illness on families. Two-thirds of the families studied recognized the patient's illness as mental, while one-sixth viewed the illness as physical or nonexistent. Attitude ranged from "sympathetic" to hostile. Nearly all families turned to community resources for help, with the family physician being the most used treatment source. —R. L. Witherspoon.

579. RAUCH, HAROLD L. (Natl Inst. Mental Hlth, Bethesda, Md.), FARBMAN, IRWIN, & LLEWELLYN, LYNN G. **Person, setting and change in social interaction.** *Hum. Relat.*, 1960, 13, 305-332. Two groups of normal boys were matched to 6 hyperaggressive boys, aged 8 to 10, who were in a residential therapeutic center. Comparisons of social behavior were made at two times with 18 months between observations. The two normal groups compared favorably. There was a suggestion that in an informal setting the older children were free to express hostility towards adults and were more controlled in their relations with their peers. While the behavior of the group under treatment still differed from normal at the end of the period, it was much more like that of normal children than it had been at the beginning. The changes in the disturbed children did not parallel the differences between

the older and the younger normal children and were therefore ascribed to the treatment rather than to the change in age. Between the ages of 10 and 12, normal boys seemed to be approaching a status of equality with the adults while the hyperaggressive boys seemed to exhibit increased dependency. The normal children varied their behavior according to the social setting to a greater degree than did the other group. The behavior which children received from their peers paralleled that which they directed at their peers. —G. T. Kowitz.

580. SCHOOLER, CARMELA. (Natl Inst. Mental Hlth, Bethesda, Md.) **Birth order and schizophrenia.** Amer. Arch. gen. Psychiat., 1961, 4, 91-97. Presented are a review and reanalysis of published findings in the area, and an analysis of new data on a 25% sample of female schizophrenics in a state hospital. Principal findings are: (1) significantly more of the patients are last-born than first-born. This difference appears to be "entirely due to subjects from families of 4 or more." (2) "In a sample of discharged patients there were disproportionately large numbers of last-half catatonics and first-half paranoid." (3) Data were insufficient to separate the effect of birth order and maternal age. Considerable attention is given to methodological problems. —J. Siller.

581. STEWART, LAWRENCE H. (Univer. of California, Berkeley) **Relationship of socioeconomic status to children's occupational attitudes and interests.** J. genet. Psychol., 1959, 95, 111-136. "The purpose of this study was to investigate the relationship between socioeconomic status and children's occupational attitudes. Specific problems involved determining the relationship of socioeconomic status to the perception of symbols of occupational status, to ideas of social class behavior, and to reputation among peers; and the relationship of children's occupational level interests to the above variables. The Dreese-Mooney Interest Inventory for Elementary Grades was administered to a sample of 243 fifth grade boys from elementary schools within commuting distance of the San Francisco Bay Area. Next, a 50-minute interview was held with each boy. In the interview, the boys were presented a set of drawings depicting nine occupations from three different socioeconomic levels to which they were asked to relate certain social class symbols. Each boy was then given a Guess-Who test, once with reference to the occupational pictures and again in reference to his peers. From the responses to the pictures and from the Guess-Who test, data were obtained concerning children's perceptions of class symbols and their ideas about social class behavior. Information regarding reputation of peers was also obtained from the Guess-Who test. Occupational level interest scores were obtained by means of a scale derived from the Dreese-Mooney Inventory. Father's occupation, classified according to a revision of Roe's occupational scale, was used as the criterion of socioeconomic class. . . . This group of fifth grade boys perceived certain social class symbols as being associated with occupations and these perceptions were fairly accurate (i.e., were similar to those observed in previous studies of socioeconomic status). . . . With one exception, perception of class symbols appeared to be independent of the subject's own status. . . . The findings indicate that the subjects had fairly well-defined expectations of how a boy from a particular socioeconomic background would behave. In general, these expectations were independent of the socioeconomic background of the subjects. . . . Sociometric ratings of peers were independent of the socioeconomic status of the raters and of the children being rated. Boys would choose friends or be chosen by others as friends, for example, without regard to social class. . . . Scores on the occupational level interest scale were independent of the perception of class symbols and of ideas about class behavior. Interest scores were related to occupational preferences of upper status boys and not to those of boys from lower status homes. There were rather low but significant correlations between interest scores and several aspects of reputation. . . ."

582. TARJAN, GEORGE (Pacific State Hosp., Pomona, Calif.), WRIGHT, STANLEY W., DINGMAN, HARVEY F., & EYMAN, RICHARD K. **Natural history of mental deficiency in a state hospital.** Amer. J. Dis. Child., 1961, 101, 195-205. 724 mentally defective patients admitted to a state hospital between 1948 and 1952 are

classified by age, diagnosis, sex, IQ, socioeconomic status, and ethnic origin. Additional characteristics of the patients, their families, and their environments are related to these basic variables. The results lend themselves to an estimation of the expected frequency of patient and family characteristics, particularly when information on age and IQ are known. They should also assist physicians in counseling parents and in guiding the development of community programs for mental defectives. —Authors' Summary and Conclusions.

583. WALLACE, ELSIE H. (Florida A. & M. Univer., Tallahassee) **Selected out-of-school factors that affect Negro elementary school children.** *J. educ. Res.*, 1960, 54, 137-140. This study ascertained the percentages of Negro children from one Florida county who watched television, listened to radio, read comic books, attended movies, participated in club activities, and attended Sunday school during the 1958-1959 school year. The responses of 3,682 Negroes in the first through sixth grades were evaluated. Percentages of participation in the various activities are given and several suggestions based upon the data are offered to parents, teachers, and community leaders. —I. Woronoff.

Book Notices

584. BANDURA, ALBERT, & WALTERS, RICHARD H. **Adolescent Aggression.** Ronald Press, 1960. 475 p. \$7.50. This research report is a study of 52 adolescent boys and their parents. It is an attempt to derive hypotheses about the relation of aggression and poor conscience development observed at adolescence to the handling of early socialization, with special emphasis on the handling of dependency. The families with an aggressive antisocial adolescent son were matched with families whose sons were chosen for the absence of overaggression, antisocial behavior. Semistructured interviews with the boys and with both parents provide most of the data for the ratings on which the report is based. Responses to pictures involving areas of potential antisocial transgression plus incomplete stories involving transgression or opportunities for transgression are also compared for both groups. The results are organized around the topics of dependency, aggression, sex, disciplinary techniques, and internationalization of controls (and, of course, identification). The results tend to bear out the hypotheses derived from social learning theory, although the coverage of literature in the discussion often goes beyond the usual learning theory sources. The book is not only well documented, but admirably specific. Case illustrations are usually given in the words of the interviewed subject. This book should find widespread use among psychologists and educators concerned with the role of early socialization on personality development. Sociologists interested in delinquency will not want to miss this book. —Z. Luria.

585. BELL, NORMAN W., & VOGEL, EZRA F. (Eds.) **A Modern Introduction to the Family.** Free Press, 1960. x+691 p. \$7.50. This book of readings should go a long way toward introducing to educators, child development workers, and psychologists, the provocative work of sophisticated sociologists, social psychologists, and psychiatrists on the family. The collection has been much influenced by the Harvard-Parsons viewpoint. The book is divided into four sections: I. Introduction, which deals with the variations in form of the family; II. The Family and External Systems (economy, polity, community, and value systems); III. Internal Processes of the Family (adaptive, co-ordinative, integrative, pattern maintaining); and IV. Family and Personality (adaptive functions, co-ordinative functions, integrative functions, pattern-maintenance functions). The editors introduce the readings with an article which gives a conceptual basis for the organization of the book. For the psychologist many of the readings will be new and exciting. Many older articles of recognized value are also included among the 51 in this volume. There is a delightful absence

of the mental hygiene, popular, armchair approach to the family. In its place are many studies of family interaction, problem resolution, and role effects. This book should find happy use in courses on the Family, as well as in Child Psychology. As a source book for a course in Personality and Psychopathology, there are a number of useful articles to be assigned. The editing job has been done unobtrusively but competently. —Z. Luria.

586. FARNSWORTH, PAUL R., & McNEMAR, QUINN. (Eds.) *Annual Review of Psychology*. Vol. 11. Annual Reviews, 1960. ix + 544 p. \$7.00. The chapter on developmental psychology by Paul Mussen in this volume will be of major interest to those engaged in research with children. Mussen's comprehensive review of the literature (covering the period of April 1958 to April 1959) gives evidence to his introductory statement concerning the field of developmental psychology: "There has been little evidence of progress toward systematic organization of the field." Thus, the attempt to review the literature required an arbitrary grouping of the 200 references cited. The largest proportion of these are included under the first broad general heading of socialization. In this section a review of research on parent-child relationships and their consequences reveals a large interest in the methodological problems of measuring parent attitudes as well as the usual correlational studies of variables associated with parental attitudes and behavior and personality development. Other major sections of the review are concerned with personality organization and function and with social behavior and social relationships. Two brief sections on cognitive functions and physical and perceptual development precede a last short paragraph citing new surveys and tests. Though developmental psychology lacks systematic organization as an area of research, in his concluding statement Mussen notes some promising signs of scientific maturation: "There are proportionately fewer purely descriptive, normative studies and more studies geared to the 'whys' of children's behavior . . . there is a great deal of self-consciousness about methods among investigators, research designs are improving, and better techniques are being discovered." He also notes the appearance of programmatic studies. Other chapters of the volume contain portions pertinent to the field of child development. Fuller's chapter on behavior genetics includes a short review of research on behavior genetics in man; DuBois' chapter on individual differences is spotted with references to research with children, as is Hoffer's chapter on abnormalities of behavior. As such, this Review is a valuable reference for developmental psychologists. —F. D. Horowitz.

587. GOFF, CHARLES WEER. *Surgical Treatment of Unequal Extremities*. C. C. Thomas, 1960. ix + 184 p. \$11.00. For a book the title of which would suggest a very specialized approach to a selected clinical situation, the contents touch upon a surprising breadth of medical disciplines. A partial listing of the chapter headings indicates the most unusual nature of the subjects discussed in the book: growth of long bones; unequal extremities; surgical method of femoral, tibial and fibular lengthening and shortening; stimulation of long bone growth; epiphyseal growth control by staples—temporary arrest, epiphysiodesis—permanent arrest; histological arrangement of the human epiphyseal plate before and after stapling, with roentgenographic correlations; long bone fractures and growth; plasticity and other problems of growth. Much space in the text has been devoted to considerations of growth and development with special emphasis on the long bones. The discussions, however, are quite general. The comprehensive bibliography fortunately provides the essential reference guides to specific information. The technical aspects are authoritatively covered; abundant illustrative material is used. Methodology, both therapeutic and diagnostic, is presented in considerable detail. —W. W. Sutow.

588. GRAHAM, STANLEY, & SHANKS, ROBERT A. *Notes on Infant Feeding*. (5th Ed.) Livingstone, 1960. 76 p. \$2.00. This small thin pocket-sized booklet provides a brief outline of the principles of infant feeding as practiced in the British Isles. While these notes undoubtedly will prove useful to the British medical student, their value to the practitioner and particularly to the American pediatrician remains problematical. —W. W. Sutow.

589. HOEFLIN, RUTH M. *Essentials of Family Living*. Wiley, 1960. viii+282 p. \$5.75. This book was written for college students at the freshman and sophomore levels for use in an introductory course in family living. The book begins with goals of emotional maturity, and includes chapters on Basic Needs of Individuals, Development of a Healthy Personality, The Family Cycle, Children in a Family, Teenagers and Their Parents, Problems and Concerns of College Students, Readiness for the Future, Dating, The Family at the Launching Stage, The Marriage Begins, and Functions of the Modern Family. A summary is presented following each chapter as are questions for discussion, notes on references cited in the text, and a list of selected readings for students. The book includes many examples illustrating human development and problems of student and family life in the form of case histories and reports of actual conversations. The author's writing has a conversational flavor which departs from traditional textbook writing and includes many observations of youth reflecting varying perceptions and attitudes in order to assist students examine various viewpoints concerning family living. It was the author's purpose to help "the reader towards the self-understanding and emotional maturity necessary for healthy, happy, and productive living," rather than to present a review of the research literature relevant to the topics covered in the book. While the research-oriented instructor might wish that the author had discussed more of the research literature, the students for whom the text is intended should find the approach used interesting and valuable. —J. Walters.

590. LEVY, DAVID M. *Behavioral Analysis*. C. C. Thomas, 1958. xxxiv+370 p. \$9.50. The present book continues Levy's studies in the influence of maternal behavioral factors on personality development. An attempt is made to develop observational methods for measuring mothers attitudes toward their newborn infants. A set of maternal behaviors that correlated well with the other estimates of "warmth" of mothers (obtained through interviews) had been obtained in previous work. The main part of this book presents recorded observations of the most minute aspects of 53 mother-infant interactions (19 mother-child pairs) during breast feeding in an attempt to validate the measures obtained earlier. The introductory chapter summarizes the general method for deriving indices of maternal attitudes and behavior rating scales relevant to the interaction situation. Organization of subsequent material is in terms of the various phases and critical problems of the interaction: initial phase of feeding interactions (Chapter 1); feeding phase (Chapter 2); significant behavioral interactions during painful breast feedings (Chapter 3); indications of tension, distraction and passivity in mothers and infants during the feeding situation (Chapter 4); interval and end phases of feeding interactions situation (Chapter 5); detailed analyses of maternal attitudes during the feeding situation (Chapter 6). Chapter 7 is an evaluation summary of the method and its application as a research technique for analysis of mother-infant interaction. Chapter 8 presents the substantive findings in summary form and discusses some of the methodological problems associated with research in this area. The book will be most useful to those concerned with similar research problems. —C. D. Smock.

591. RITHOLZ, SOPHIE. *Children's Behavior*. Bookman Associates, 1959. 239 p. \$5.00. This monograph reports another repeat of the classic Wickman study of the attitudes of teachers and mental hygienists toward children's behavior problems. This time parents, and children themselves, also reacted to the items. Clearly, the mental hygienists are the deviants in attitudes toward behavior! Parents, teachers, and children tend to agree with each other (correlations of .65 to .92, depending on the comparison), but the agreement of any of these groups with the mental hygienists is low (correlations of virtually zero to about +.30). The author, a clinician, also points out that Wickman's list contains two kinds of items—one relating to conduct and one relating to psychological states or conditions. Much of the over-all difference between teachers and mental hygienists now becomes clear—the former consistently view conduct items, the latter view psychological conditions as the more serious. Hence, teachers, parents, and children themselves may be said to be more practical, more concerned with concrete situations, than are mental

hygienists, who are more abstract, more theoretic. The author also explores the significance of the findings for the moral instruction of children, holding that mental hygienists probably represent a morality well in advance of the practical views of the other groups studied, who support the existent social norms. —D. B. Harris.

592. SCHNEIDERS, ALEXANDER A. *Personality Development and Adjustment in Adolescence.* Milwaukee: Bruce Publishing, 1960. x+473 p. \$5.75. While this book is, in one sense, a revision of the author's 1951 "Psychology of Adolescence," it has been completely reorganized. It now includes, in addition to the "Psychology of Adolescence," the "Physiology of Adolescence," and the "Sociology of Adolescence." The author states in his preface that the book is problem-oriented, research oriented, motivation-oriented, and counseling-oriented, and he appears to have been successful in this approach. The material is well documented, the problems encountered by adolescents are discussed, the dynamics of personality development are stressed, and basic principles of adolescent behavior are developed. The author who is a professor of psychology at Fordham University reveals his underlying Catholic philosophy in many places in the book, but more particularly in his chapter on "Moral and Religious Development in Adolescence." This will add strength to the book in the eyes of some readers but not in the eyes of others. —S. R. Laycock.

593. SEARLES, HAROLD F. *The Nonhuman Environment.* International Universities Press, 1960. xvii+446 p. \$7.50. The author makes a systematic attempt to study that portion of our environment which includes animal pets, trees, household plants and other works of nature, as well as such inanimate things as houses, furniture, books, etc. He labels this as the nonhuman realm of man's environment. The author illustrates that this whole sector of our environment is on many counts an integral part of human living. He traces the development of our relations to the non-human environment from infancy to adulthood and shows that in the normal adult, nonhuman objects serve far more than a merely symbolic or defensive function. The book also is devoted to a study of the nonhuman environment in the life of deeply regressed schizophrenic patients. A wealth of case illustrations from intensive long-term psycho-therapy is presented. Many patients were studied over a period of several years, offering unusually rich material. This permitted the author deep insight into disturbances in thought processes, emotionality, communication, and the identification with and anxiety aroused by nonhuman objects in schizophrenia. Added to the above, there are instructive descriptions of specific techniques for treating schizophrenics with problems of transference, countertransference, silences, and of communication. In conclusion, drawing upon the many psychological meanings which the nonhuman environment may assume, the writer speculates about this as an unusual meeting ground where psychiatry, psychoanalysis, other behavioral sciences, and the physical sciences may converge. —J. D. Teicher.

594. WEINSTEIN, EUGENE A. *The Self-Image of the Foster Child.* Russell Sage Foundation, 1960. 80 p. \$2.00. This is a very interestingly written report of a study dealing with foster placement and the well-being of the child, where "each placement situation is viewed as a social system." Following this formulation, Weinstein has placed special emphasis on the consideration of the various interrelationships (Caseworker-Natural Parent, Caseworker-Child, Foster Parent-Natural Parent, etc.) in the placement situation as they relate to (a) the child's view of himself in terms of identification, (b) the child's understanding of the various facets of placement, and (c) his "personality" development as measured by a "Total Well-Being Scale." This last measure is admittedly crude, but does offer some idea of the child's "adjustment" as evaluated by a caseworker who is intimately acquainted with the situation. In addition to the findings themselves, two important contributions of the study would appear to be: (1) emphasis on "the inclusion of a sociological perspective as well as a psychodynamic one in attempting to understand what goes on in placement" and (2) the author's success in overcoming "resistance to allowing social scientists direct contact with agency clients in the course of collaborative research." In the former case, the author was able to study variables which would normally be unavailable.

able from a typical casework report on the impact of foster placement, while in the latter he reports that no ill-effects need accrue when researchers contact agency subjects directly and that therefore "the prognosis seems favorable for extending this practice." An appendix describing the social agency and an index are included.

—A. H. Blum.

Books Received

- ACKERMAN, NATHAN W., BEATMAN, FRANCES L., & SHERMAN, SANDFORD N. (Eds.) **Exploring the Base for Family Therapy.** New York: Family Service Ass. of America, 1961. 159 p. \$4.00.
- ALT, HERSCHEL. **Residential Treatment for the Disturbed Child.** International Universities Press, 1961. xiii+437 p. \$7.50.
- AUSTIN, MARY C. **The Torch Lighters: Tomorrow's Teachers of Reading.** Harvard Univer. Press, 1961. xv+191 p. \$1.00.
- AUSTIN, MARY C., BUSH, CLIFFORD L., & HUEBNER, MILDRED H. **Reading Evaluation.** Ronald Press, 1961. v+256 p. \$4.50.
- BASKIN, SAMUEL. **Quest for Quality.** U.S. Govt. Printing Office, 1960. v+18 p. \$.15.
- BEERY, JOHN R. **Professional Preparation and Effectiveness of Beginning Teachers.** Univer. of Miami, 1960. 84 p.
- BENNETT, IVY. **Delinquent Neurotic Children.** Basic Books, 1961. xii+532 p. \$10.00.
- BHOJRAJ, SHEWAK. (Ed.) **Happy Growth of the Child.** Allahabad, India: Kitab Mahal, 1960. xv+ 240 p. \$1.50.
- BLAINE, GRAHAM B., Jr., & McARTHUR, CHARLES C. (Eds.) **Emotional Problems of the Student.** Appleton-Century-Crofts, 1961. xxv+254 p. \$4.95.
- BLOCH, HERBERT A. (Ed.) **Crime in America.** Philosophical Library, 1961. 355 p. \$6.00.
- BRUNER, JEROME S. **The Process of Education.** Harvard Univer. Press, 1960. xvi+97 p. \$2.75.
- CAPLAN, GERALD (Ed.) **Prevention of Mental Disorders in Children.** Basic Books, 1961. xii+425 p. \$8.50.
- CARBONARA, NANCY TREVORROW. **Techniques for Observing Normal Child Behavior.** Univer. of Pittsburgh Press, 1961. v+25 p. \$1.00.
- CLARK, MARGARET M. **Teaching Left-Handed Children.** Philosophical Library, 1961. 44 p. \$2.75.
- CONNELL, W. F. **The Foundations of Secondary Education.** Austr. Council Educ. Res., 1961. viii+127 p. 21/-.
- CROW, LESTER D., & CROW, ALICE. (Eds.) **Readings in Child and Adolescent Psychology.** Longmans, Green, 1961. xii+592 p. \$3.95.
- CROW, LESTER D., CROW, ALICE, & MURRAY, WALTER. (Eds.) **Teaching in the Elementary School. Readings.** Longmans, Green, 1961. xii+571 p. \$3.95.
- DAVIS, ALLISON. **Psychology of the Child in the Middle Class.** Univer. of Pittsburgh Press, 1960. 70 p. \$1.85.
- ELLIS, RICHARD W. B. **Disease in Infancy and Childhood.** (3rd Ed.) Livingstone, 1960. vii+ 714 p. \$11.50. (Williams & Wilkins)
- ENGLISH, HORACE B. **Dynamics of Child Development.** Holt, Rinehart, & Winston, 1961. xiii+461 p. \$5.75.

- ERDMAN, ROBERT L. **Educable Retarded Children in Elementary Schools.** Council for Exceptional Children, 1961. 60 p. \$1.75.
- FARNSWORTH, PAUL R., McNEMAR, OLGA, & McNEMAR, QUINN. (Eds.) **Annual Review of Psychology.** Vol. 12. Annual Reviews, 1961. ix+533 p. \$7.00.
- GARTON, MALINDA DEAN. **Teaching the Educable Mentally Retarded.** Thomas, 1961. xiv+233 p. \$7.50.
- GINZBERG, ELI. (Ed.) **Values and Ideals of American Youth.** Columbia Univer. Press, 1961. xii+338 p. \$6.00.
- GORDON, GAVIN C. **Congenital Deformities.** Livingstone, 1961. vii+128 p. \$8.50. (Williams & Wilkins)
- HALL, VICTOR E., FUHRMAN, F. A., & GIESE, A. C. (Eds.) **Annual Review of Physiology.** Vol. 23. Annual Reviews, 1961. 674 p. \$7.00.
- HARRIS, IRVING D. **Normal Children and Mothers.** Free Press, 1959. x+287 p. \$6.00.
- HERZOG, ELIZABETH. **Children of Working Mothers.** U.S. Govt. Printing Office, 1960. iii+38 p. \$.20.
- HONKAVAARA, SYLVIA. **The Psychology of Expression.** Cambridge Univer. Press, 1961. x+96 p. \$4.50.
- HOUNTRAS, PETER T. (Ed.) **Mental Hygiene: A Text of Readings.** Merrill, 1961. xi+577 p. \$5.95.
- HUSBANDS, KENNETH L. **Teaching Elementary School Subjects.** Ronald Press, 1961. viii+474 p. \$6.50.
- JONES, EVE. **Natural Child Rearing.** Free Press, 1959. 288 p. \$4.95.
- KLAUSMEIER, HERBERT J. **Learning and Human Abilities: Educational Psychology.** Harper, 1961. x+562 p. \$7.50.
- KLEIN, MELANIE. **Narrative of a Child Analysis.** Basic Books, 1961. 536 p. \$10.00.
- LURIA, A. R. **The Role of Speech in the Regulation of Normal and Abnormal Behavior.** Pergamon Press, 1961. 110 p. \$8.50.
- McCANDLESS, BOYD R. **Children and Adolescents: Behavior and Development.** Holt, Rinehart, & Winston, 1961. ix+521 p. \$6.50.
- MCFEE, JUNE KING. **Preparation for Art.** Wadsworth, 1961. xiv+341 p. \$6.50.
- MEYER, HENRIETTE H. **Das Welspiel.** Huber, 1957. 143 p.
- MOSS, BERNICE R., SOUTHWORTH, WARREN H., & REICHERT, JOHN LESTER (Eds.) **Health Education.** (5th Ed.) Natl. Educ. Ass. of U.S., 1961. xi+429 p. \$5.00.
- NEUMAYER, MARTIN H. **Juvenile Delinquency in Modern Society.** Van Nostrand, 1961. xi+426 p. \$6.50.
- PHENIX, PHILIP H. (Ed.) **Philosophies of Education.** Wiley, 1961. vi+137 p. \$1.90.
- PICKARD, P. M. **I Could a Tale Unfold: Violence, Horror & Sensationalism in Stories for Children.** Humanities Press, 1961. xi+228 p. \$5.00.
- RADCLIFFE, SHIRLEY A., & HATCH, WINSLOW R. **Advanced Standing.** U.S. Dept. Hlth Educ. & Welf., 1961. iv+24 p. \$.15.
- RICHARDSON, FRANK HOWARD. **For Young Adults Only.** Tupper & Love, 1961. x+133 p. \$2.95.
- ROBERTSON, SEONAIID MAIRI. **Craft and Contemporary Culture.** Harrap & Unesco, 1961. 160 p. \$3.50. (Columbia Univer. Press)
- ROUCEK, JOSEPH S. (Ed.) **Sociology of Crime.** Philosophical Library, 1961. 551 p. \$10.00.

- RUNES, DAGOBERT D. *Letters to My Teacher*. Philosophical Library, 1961. 105 p. \$2.75.
- SCHRAMM, WILBUR, LYLE, JACK, & PARKER, EDWIN B. *Television in the Lives of Our Children*. Stanford Univer. Press, 1961. vii+324 p. \$6.00.
- SHAGASS, CHARLES, & PASAMANICK, BENJAMIN. (Eds.) *Child Development and Child Psychiatry*. Amer. Psychiat. Ass., 1960. 225 p. \$2.00.
- SHIPLEY, THORNE. (Ed.) *Classics in Psychology*. Philosophical Library, 1961. xx+1342 p. \$20.00.
- SILVERMAN, HIRSCH LAZAAR. *Psychology and Education*. Philosophical Library, 1961. 169 p. \$3.75.
- STERN, H. H. *Parent Education. An International Survey*. Univer. of Hull, England, 1960. vi+163 p. 6/-.
- SYMONDS, PERCIVAL M., & JENSEN, ARTHUR R. *From Adolescent to Adult*. Columbia Univer. Press, 1961. viii+413 p. \$8.75.
- TANSLEY, A. E., & GULLIFORD, R. *The Education of Slow Learning Children*. Humanities Press, 1961. viii+255 p. \$5.00.
- TOMAN, WALTER. *An Introduction to Psychoanalytic Theory of Motivation*. Pergamon Press, 1960. x+353 p. \$9.00.
- VINCENT, ELIZABETH LEE, & MARTIN, PHYLLIS C. *Human Psychological Development*. Ronald Press, 1961. v+522 p. \$6.50.
- WAGNER, GUY, & HOSIER, MAX. *Reading Games*. Darien, Conn.: Educational Publishing Corp., 1960. 128 p. \$1.95.
- WEINREB, JOSEPH. (Ed.) *Recent Developments in Psychoanalytic Child Therapy*. International Universities Press, 1961. x+178 p. \$5.00.
- WYLIE, RUTH C. *The Self-Concept*. Univer. of Nebraska Press, 1961. xiii+370 p. \$4.50.
- Bibliographical Review of the Czechoslovak Literature on Communal, School and Food Hygiene of 1959.** Prague: Inst. of Hygiene, 1960. 135 p.
- List of Institutions, Research Centers, Schools, Persons and Periodicals in the Field of Physical Culture.** Warsaw, Poland: Inst. for Research in Physical Culture, 1961. 132 p.
- National Science Foundation. *Current Projects on Economic and Social Implications of Scientific Research and Development*. U.S. Govt. Printing Office, 1961. 124 p. \$.40.
- Prevention—Treatment—Control of Juvenile Delinquency Through Group Work Services.** New York City Youth Board, 1959. 83 p.
- Report of Three Day Conference on Narcotic Addiction and the Teenager.** New York City Youth Board, 1960. 27 p.
- UNESCO. *The Influence of the Cinema on Children and Adolescents: an Annotated International Bibliography*. Columbia Univer. Press, 1961. 106 p. \$1.50.

Author Index

- | | | |
|-----------------------|---------------------|-----------------------|
| Abernathy, E. R. 418 | Anderson, A. S. 318 | Baker, P. T. 539 |
| Acker, M. 407 | Ansaldi, N. 278 | Bandura, A. 584 |
| Allender, B. 557 | Avakian, S. A. 463 | Bangs, T. E. 341 |
| Allison, A. C. 538 | Baer, D. M. 340 | Bardet, C. 342 |
| Altamus, L. A. 265 | Bailey, M. J. 522 | Barnard, J. W. 343 |
| Amatora, Sr. M. 338 | Baker, C. T. 397 | Bartlett, C. J. 555 |
| Ames, L. B. 339 | Baker, J. W. 464 | Baumann, M. L. 296 |
| Andersland, P. B. 462 | | Baumeister, A. A. 555 |

- Bayley, N. 435, 568
 Beaudry, P. 512
 Becker, W. C. 504
 Bell, N. W. 585
 Bell, R. Q. 435
 Bell, R. W. 286
 Berman, P. H. 323
 Bernstein, N. 299
 Bettelheim, B. 465
 Bailer, I. 344
 Bianchi, P. 290
 Bijou, S. W. 345, 425
 Blažek, F. 266
 Bloodstein, O. 346, 347, 348
 Blum, A. 410
 Bolduc, T. E. 349
 Bordt, D. E. 307
 Borová, E. 266
 Bosma, J. F. 479
 Bower, E. M. 466
 Bowser, D. C. 516
 Boyer, P. A. 307
 Bradburn, E. 556
 Brightman, I. J. 524
 Bronson, W. 402
 Brown, G. C. 308
 Brown, K. B. 502
 Budoff, M. 350
 Buehler, J. A. 371
 Burchinal, L. G. 482
 Burns, R. C. 467
 Byrne, M. C. 557
 Caditz, S. B. 468
 Calkins, L. A. 295
 Campbell, J. D. 569
 Campbell, W. J. 570
 Capobianco, R. J. 561
 Carruthers, M. F. 540
 Carter, G. H. 353
 Castaneda, A. 351
 Chapman, A. M. 469
 Charles, D. C. 352
 Check, J. 393
 Childs, D. S., Jr. 321
 Clarke, H. H. 353
 Clayton, G. W. 309
 Cleveland, W. W. 310
 Clifford, E. 571
 Cochrane, J. 570
 Cockerille, C. E. 516
 Coleman, J. S. 572
 Consalvi, C. 507
 Copetas, F. G. 516
 Cornelison, A. R. 573
 Coronini, J. 282
 Corotto, L. V. 470, 471
 Corrigan, G. E. 267
 Coventry, M. B. 319
 Cox, F. N. 354
 Crandall, V. J. 355, 397
 Cromwell, R. L. 344, 356
 Crosswhite, L. H. 551
 Crosti, P. F. 290
 Cureton, T. K. 523
 Curnutt, R. H. 470, 471
 Curtiss, P. H., Jr. 311
 Dahlin, D. C. 319, 330
 Daily, J. M. 466
 Dalton, K. 472
 Damborská, M. 357
 Damon, A. 285
 Darley, F. L. 415, 417
 Daryn, E. 473
 Davidon, R. S. 358
 Davidson, K. S. 359
 Davidson, W. M. 541
 Delacato, C. H. 314
 de Majo, S. F. 312
 Dennis, W. 360
 Dent, S. J. 335
 Dentler, R. A. 574
 Deutsch, C. P. 480
 Deutsch, M. 480
 DeWeerd, J. H. 321
 Diedrich, W. M. 557
 Dingman, H. F. 327, 448, 582
 Dittman, A. T. 474
 Dodwell, P. C. 361
 Doebring, D. G. 362
 Dokládal, M. 268
 Doll, R. 313
 Doman, G. 314
 Doman, R. J. 314
 Dreger, R. M. 363
 Dressler, W. H. 318
 Drexler, H. G. 441
 Drouillard, K. E. 553
 Dufty, N. F. 364
 Easson, W. M. 475
 Eiger, M. S. 323
 El Koussy, A. H. 575
 Ellingson, T. J. 476
 Elliot, O. 481
 Ellwood, P. M., Jr. 315
 Engel, W. J. 336
 Ermacora, E. 290
 Estes, B. W. 365
 Etteldorf, J. N. 287
 Eymann, R. K. 582
 Fahel, L. S. 351
 Farbman, I. 579
 Farnsworth, P. R. 586
 Farrell, M. J. 328
 Feffer, M. H. 366
 Feldhusen, J. 393
 Fenton, A. K. 440, 516
 Ferber, B. 524
 Ferrell, C. 287
 Ferrier, P. 299
 Fichter, G. R. 516
 Fiedler, M. F. 565
 Fine, C. G. 565
 Fineberg, H. H. 525
 Fischer, W. F. 456
 Fischer, R. L. 287
 Fisher, G. M. 367, 477, 478
 Fisk, F. 487
 Fleischmann, W. 287
 Fleisher, D. S. 288
 Fletcher, S. G. 479
 Fois, A. 289
 Forbes, G. B. 269
 Forssman, H. 542, 543
 Foshee, J. G. 356
 Foss, G. L. 544
 Freedman, A. M. 480
 Freedman, D. G. 481
 Fry, E. I. 270
 Gaard, R. A. 316
 Galarneau, A. F. 526
 Gallistel, E. 520
 Gallup, J. 269
 Gardner, D. B. 482
 Gay, M. L. 506
 Ghent, L. 368
 Gibbs, E. L. 279
 Gibbs, F. A. 289
 Gibson, D. 512
 Goda, S. 369
 Goff, C. W. 587
 Goldstein, R. 370
 Goodrich, D. W. 474
 Gordon, B. D. 317
 Gordon, M. J. 483
 Gordy, E. 551
 Gorelick, J. 450
 Gourevitch, V. 366
 Graham, S. 588
 Grant, D. K. 320
 Grasso, E. 290
 Green, O. C. 310
 Green, R. 484
 Greenbaum, M. 371
 Griffith, A. H. 372
 Griffith, B. C. 400
 Grold, L. J., Jr. 485
 Grumbach, M. M. 337
 Grunebaum, M. B. 519
 Gurtsin, O. 489
 Guyer, E. J. 306
 Haddad, E. J. 296
 Haddad, H. M. 291
 Hall, K. D. 335
 Halpern, S. 510
 Hamilton, N. K. 558
 Hanninen, P. 297
 Hansman, C. F. 271
 Hanson, H. B. 318
 Hanvik, L. J. 318
 Haratani, T. 373
 Hartup, W. W. 374
 Harwood, E. 375
 Haskins, R. C. 479
 Hawkes, G. R. 482

- Haworth, M. R. 486
 Hayles, A. B. 319, 330
 Heimstra, N. 420
 Heist, P. 376
 Hellmer, L. A. 504
 Hendry, L. S. 391
 Henry, F. M. 377, 378
 Hilgard, J. R. 487
 Hilkewitch, R. R. 576
 Hill, A. B. 313
 Hillis, J. W. 422
 Hillman, R. W. 292
 Hoeflin, R. M. 589
 Hoffman, L. W. 488
 Holland, W. R. 559
 Holloway, H. D. 379
 Holton, R. B. 380
 Holub, J. 266
 Holzworth, A. 464
 Horowitz, F. D. 381
 House, B. J. 382
 Hudson, M. 560
 Hulse, F. S. 545
 Hunt, R. G. 489
 Hursh, J. B. 269
 Hurtig, M.-C. 461
 Hutchinson, J. G. 574
 Hutton, C. 490
- Inhorn, S. L. 552
 Irwin, O. C. 383, 384
 Iwahara, S. 444
- Jackson, R. L. 306
 James, A. T. 538
 James, H. 385
 Jebsen, R. H. 320
 Jeffrey, W. E. 386
 Jenkins, S. 491
 Johnson, C. 387
 Johnson, C. M. 309
 Johnson, E. W. 320
 Johnson, G. O. 561
 Johnson, R. C. 387
 Jones, E. C. 525
 Jones, J. H. 332
 Jordan, E. P. 388
- Kagan, J. 389, 397
 Karlberg, P. 293
 Kates, M. 538
 Katz, M. M. 294
 Keislar, E. R. 390
 Kendrick, P. L. 308
 Kessen, W. 391, 392, 453
 Kidd, J. W. 492
 Kilpatrick, G. S. 332
 King, J. A. 481
 Kinzel, R. C. 321
 Klausmeier, H. J. 393
 Knapp, M. E. 322
 Knobloch, H. 320
 Knox, P. R. 335
 Knudson, A. G. 500
- Kraus, B. S. 272
 Krogman, W. M. 273
 Krugman, S. 323
 Kabala, A. L. 294
 Kuzutani, T. 394
- L'Abate, L. 395
 Lachmann, F. M. 396
 Lansky, L. M. 397
 Lasker, G. W. 546
 Leaper, P. M. 354
 Lehman, E. 493
 Leiman, A. H. 398
 Lemkin, J. 389
 Leshin, G. J. 527, 528
 Lesny, I. 324
 Leutendorff, A.-M. 391
 Levine, G. N. 577
 Levy, D. M. 529, 590
 Lewis, L. 547
 Lewis, T. L. T. 325
 Lewis, V. S. 578
 Lewis, W. H. P. 302
 Liebert, R. S. 510
 Linn, T. 286
 Lipman, R. S. 399, 400
 Lipsitt, L. P. 401
 Livingston, S. 329
 Livingstone, F. B. 548
 Livson, N. 274, 402
 Llewellyn, L. G. 579
 London, N. J. 494
 Longo, N. 358
 Lovaas, O. I. 403, 404
 Lowell, E. L. 534
 Lundström, A. 275
 Luria, Z. 504
 Lux, E. 530
 Lynn, H. G. 326
- Maas, J. W. 506
 McConnell, T. R. 376
 McCord, J. 405
 McCord, W. 405
 McCracken, R. A. 562
 McCrory, W. W. 288
 McCullers, J. C. 406
 McFarland, R. A. 285
 McNeill, D. 274
 McNemar, Q. 586
 McReynolds, P. 407
 Maher, B. A. 408
 Malpass, L. F. 409
 Maresh, M. M. 271
 Marshall, D. A. 423
 Marshall, W. E. 451
 Martin, L. 387
 Martin, W. E. 410
 Mathews, D. K. 276
 Matsler, F. 376
 Matsuyama, Y. 373
 Maw, E. W. 411, 412, 413
 Maw, W. H. 411, 412, 413
 Meyer, W. J. 414, 440
- Mezei, T. C. 495
 Michaels, R. M. 323
 Migeon, C. J. 310
 Miller, C. R. 448
 Miller, D. Y. 561
 Miller, H. C. 295
 Mills, S. D. 321
 Minami, Y. 373
 Misak, H. 427
 Miszcak, T. 550
 Moll, K. L. 415
 Money, J. 484
 Monsees, E. K. 496
 Moreigne, F. 342
 Mori, S. 416
 Morkovin, B. V. 563
 Morris, H. L. 417
 Moser, H. M. 418
 Mosier, H. D. 327
 Moss, J. W. 419
 Moss, M. 419
 Motulsky, A. G. 549
 Muhler, J. C. 531
 Murawski, K. 550
 Muuss, R. E. 497, 498, 499
 Myers, J. L. 398, 494
 Myers, N. A. 398
- Natterson, J. M. 500
 Nelson, S. E. 318
 Neubauerová, H. 357
 Neville, D. 564
 Newman, M. F. 487
 Newman, M. T. 277
 Newton, G. 420
 Nicola, P. 278
 Niswander, J. D. 279
 North, W. C. 335
 Norton, M. C. 530
- Odom, R. 351
 Ogburn, W. F. 501
 Ogdon, D. P. 421
 Oñativia, A. 312
 O'Neil, R. 329
 O'Neill, J. J. 418, 422
 Orlando, R. 423
 Osborn, W. J. 424
 O'Sullivan, J. B. 328
 Ourth, L. 502
 Oyer, H. J. 418, 422
- Palermo, D. S. 425
 Palmer, M. F. 503
 Parnell, J. 567
 Patau, K. 552
 Paul, C. D. 516
 Pauli, L. 329
 Peffley, G. E. 531
 Peltonen, T. 297
 Penny, R. K. 426
 Peterson, D. R. 504, 505,
 507
 Pierce, C. M. 506

- Pietila, C. 407
 Pillsbury, S. G. 532
 Poncová, V. 533
 Pouliot, S. 427
 Preston, A. 355
 Pritchard, S. A. 352
 Prokopec, M. 280
 Prošek, V. 281
 Pryer, R. S. 428
 Pursell, A. R. 307
 Pyle, S. I. 282
 Quay, H. C. 505, 507
 Rachman, S. 521
 Rapoport, M. 288
 Ratcliff, J. W. 304
 Rauch, H. L. 579
 Reardon, H. S. 296
 Reddy, W. J. 328
 Reed, R. B. 282
 Reed, R. C. 326
 Reese, H. W. 429, 430
 Reiman, R. C. 305
 Reisner, G. 286
 Rich, C. L. 289
 Ritholz, S. 591
 Roach, J. L. 489
 Rosen, J. 495
 Rosenberg, B. G. 431, 445
 Rosenberg, C. M. 515
 Rosenblith, J. F. 432
 Rosenstein, J. 362
 Rosenthal, D. 508
 Rowland, S. A. 330
 Rubin, L. S. 509
 Rudel, R. G. 510
 Rushford, G. 534
 Sabin, A. B. 323
 Sahhar, F. M. 553
 Sakula, J. 313
 Salmi, T. 297
 Sandberg, A. A. 551
 Sarason, S. B. 343, 359
 Sato, C. 433, 434
 Schaefer, E. S. 435, 568
 Schechter, M. D. 511
 Schneiders, A. A. 592
 Schooler, C. 580
 Schutt, C. C. 512
 Scott, L. W. 327
 Searles, H. F. 593
 Seckel, H. P. G. 298
 Seidman, S. B. 414
 Semmel, M. I. 513
 Sénéchal, J. 342
 Serot, N. M. 436
 Seymour, R. B. 437
 Shaffer, G. K. 438
 Shanks, R. A. 588
 Shaw, C. R. 514
 Shaw, V. 276
 Shellhamer, T. A. 466
 Shepard, E. E. 331
 Shepard, H. H., II 299
 Shoemaker, D. J. 504
 Shooter, J. R. 451
 Showe, B. M., Jr. 418
 Shuster, S. 332
 Sievers, D. J. 515
 Simková, M. 266
 Skinner, C. W., Jr. 333
 Skovránek, V. 535
 Smith, D. C. 439
 Smith, D. W. 552
 Smith, O. W. 300
 Šobová, A. 283
 Solley, W. H. 284
 Sommers, R. K. 440, 516
 Spencer, S. 317
 Spitz, E. B. 314
 Spietersbach, D. C. 417
 Staffieri, F. P. 307
 Stahlman, M. 301
 Stallybrass, F. C. 334
 Stearns, P. E. 553
 Steer, M. D. 441
 Stein, G. H. 509
 Steinhilber, R. M. 475
 Stephen, C. R. 335
 Stern, J. 302
 Sternbach, R. A. 303
 Stevenson, H. W. 406, 442,
 443
 Stewart, L. M. 581
 Stone, L. J. 565
 Stoudt, H. W. 285
 Straffon, R. A. 336
 Stuart, H. C. 282
 Sugimura, T. 444
 Sujaku, C. 279
 Sullivan, C. R. 330
 Sussmann, L. A. 577
 Sutherland, J. M. 304
 Sutton, H. E. 514
 Sutton-Smith, B. 431, 445
 Sweetland, A. 363
 Swyer, P. R. 305
 Tabouret-Keller, A. 446
 Takahashi, S. 447
 Tarjan, G. 448, 582
 Teevan, R. C. 436
 Terrell, G. 449
 Therman, E. 552
 Thompson, C. W. 526
 Thurston, J. R. 517
 Tiffany, T. L. 505
 Tisdall, W. J. 566
 Tizard, J. 419
 Tobias, J. 450
 Tucker, H. J. 311
 Tueber, H.-L. 510
 Tyler, R. M. 423
 Ulrich, D. N. 519
 Van Leeuwen, G. J. 306
 Van Wyk, J. J. 337
 Veenker, C. H. 536
 Vogel, E. F. 585
 Vojta, V. 324
 Wagner, N. N. 518
 Wallace, E. M. 583
 Wallace, H. M. 537
 Wallach, M. A. 519
 Walters, R. H. 451, 584
 Ware, R. 449
 Warren, J. 323
 Waxman, S. 299
 Webb, C. E. 567
 Weinstein, E. A. 594
 Weir, M. W. 443
 Werner, E. 520
 Whalen, J. W. 307
 Wheeler, D. K. 452
 Whitman, R. M. 506
 Williams, E. J. 392
 Williams, J. P. 392, 453
 Williams, P. 376
 Wilson, D. J. 454
 Wing, L. 439
 Winitz, H. 455
 Witherspoon, Y. T. 554
 Wittryol, S. L. 456
 Wohlwill, J. F. 457
 Wolpe, J. 521
 Woltmann, A. G. 486
 Wood, J. B. 276
 Wright, J. J. 305
 Wright, S. W. 582
 Wright, V. 458
 Wurtz, K. R. 459
 Yarrow, M. R. 569
 Ybanez, M. 329
 Zarling, V. R. 318
 Zazzo, B. 460
 Zazzo, R. 461
 Zeaman, D. 382
 Zeichner, A. M. 578
 Zimbardo, P. G. 343
 Zook, E. A. 374
 Zucman, E. 314

06

84

453

54

5

1



Printed by
THE ANTIOCH PRESS
Yellow Springs, Ohio



CURRENT MONOGRAPHS

of the Society for Research in Child Development, Inc.

Helen L. Koch

THE RELATION OF CERTAIN FORMAL ATTRIBUTES
OF SIBLINGS TO ATTITUDES HELD TOWARD EACH
OTHER AND TOWARD THEIR PARENTS

1960 \$3.50

Nancy E. Wood

LANGUAGE DEVELOPMENT AND LANGUAGE DIS-
ORDERS: A COMPENDIUM OF LECTURES

1960 \$2.75

Irwin M. Marcus, *et al.*

AN INTERDISCIPLINARY APPROACH TO ACCIDENT
PATTERNS IN CHILDREN

1960 \$2.50

Bernard Farber

FAMILY ORGANIZATION AND CRISIS: MAINTENANCE
OF INTEGRATION IN FAMILIES WITH A SEVERELY
MENTALLY RETARDED CHILD

1960 \$2.75

IOWA CHILD WELFARE RESEARCH STATION. STATE
UNIVERSITY OF IOWA. THE FORTIETH ANNI-
VERSARY: 1917 - 1957

1959 \$2.50

Ali A. Kawi and Benjamin Pasamanick

PRENATAL AND PARANATAL FACTORS IN THE DE-
VELOPMENT OF CHILDHOOD READING DISORDERS

1959 \$3.00

Ruth Hoeflin and Leone Kell

THE KELL-HOEFLIN INCOMPLETE SENTENCE
BLANK: YOUTH PARENT RELATIONS

1959 \$2.25

Lucille Aust Hunt

A DEVELOPMENTAL STUDY OF FACTORS RELATED
TO CHILDREN'S CLOTHING PREFERENCES

1959 \$1.75

(A mimeographed list of all monographs available in the series since 1935
will be sent upon request.)

order from

CHILD DEVELOPMENT PUBLICATIONS

Purdue University, Lafayette, Indiana

NC.

.50

.75

.50

.75

.50

.00

.25

.75

1935